TASK ORDER 065
PROVIDER PAYMENT CASE STUDIES

Health Financing Reforms in Kemerovo Oblast, Russia: Background, Current Status, and Prospective Directions

March 1997

HEALTH FINANCING REFORMS IN KEMEROVO OBLAST, RUSSIA: BACKGROUND, CURRENT STATUS, AND PROSPECTIVE DIRECTIONS

A CASE STUDY

Prepared under Task Order 5761.065
by Alexander Telyukov, Ph.D.

AID Contract No. CCN-0004-C-00-4023-00
Managed by Abt Associates, Inc.
with offices in Bethesda, Maryland, USA
Moscow, Russia; Almaty, Kazakstan; Kiev, Ukraine

March 1997

TABLE OF CONTENTS

ACRONYMS AND THEIR EXPLANATION

ALOS Average Length of Stay

CIS the Commonwealth of Independent States, an association of 12 former Soviet Republics formed in December 1992 to minimize conflict during the dissolution of the Soviet Union. Over time the CIS has evolved into a mechanism of political, economic, and military cooperation, best described as that of coordination rather than integration.

CSG Clinical Statistical Group: a case mix group, used as a line item in a hospital reimbursement schedule. In 1995, 50.4 percent of Russian hospitals reportedly received case-based reimbursement, on an MES- or CSG-based schedule. MES schedules usually consist of many thousands of items. CSGs are aggregated from MES listings yet still excessively detailed, and grouped by cost similarity rather than clinical consistency. The main grouping parameter is principal diagnosis. Up to two comorbidities and complications may be allowed for.

FTE Full-time equivalent, as opposed to physical persons, in measuring labor input, planning staffing schedule, or designing salary scale.

GDP Gross Domestic Product

GPs General Practitioners, General Practices

HMO Health Maintenance Organization (see in the *Glossary of Terms*).

ICD-9 the International Code of Diseases, 9th Revision

IHS Integrated Health System: a vast array of contractual arrangements whereby providers of care would establish relationships with one another and/or with a purchaser of their services in order to increase their market share and improve cost efficiency. IHSs may differ broadly by scope of functions (e.g., absence or presence of financial component; covered ranges of services), degree of affiliation (ranging from an association of fully autonomous providers to close legal integration), reimbursement methods and procedures (e.g., direct allocations from the payor to each participating provider; versus full fund holding, with the capitated budget prospectively paid to a GP, and by him to sub-contracting providers of secondary and tertiary services).

LOS Length of Stay

MES Medical Economic Standards: sets of territory- or facility-wide clinical standards. MES usually mandate technology of service provision by associating each diagnosis with a list of procedures that must be performed if a particular

diagnosis is present. Main areas of application: (i) Costing and rate setting: diagnosis-related procedures and pharmaceuticals would be priced. Itemized price list would be aggregated into a case rate. (ii) Quality control: Hospitals may be penalized for deviating from MES clinical protocols. Compliance is controlled by means of discharge survey on a random sample basis. (iii) Hospital reimbursement: case-based payment is a product of multiplication of a MES rate by quality adjustment factor (see QAF).

MHI Mandatory Health Insurance, in terms of the 1991 Law on Mandatory Medical Insurance of the Citizens of Russia and the 1993 law on the revisions of that law.

MIS Management Information System

MOH Ministry of Health

NIS New Independent States

OECD Organization for Economic Cooperation and Development

QAF Quality Adjustment Factor: a ratio in a range of 0 to 100 percent to measure quality of medical services. The estimation techniques are geared in part to technical quality parameters (degree of adherence to clinical protocols of care provision), in part to clinical outcomes (degree of improvement, versus deterioration of health at the point of discharge from the hospital), and in part to perceived quality (presence of consumer complaint). Any loss of quality, indicated by QAF less than 100 percent, results in an under-reimbursement of case costs.

RUR Russian Federation Ruble—an IATA official code for the Russian currency

WHO World Health Organization

GLOSSARY OF TERMS

Age/Sex Risk Adjustment

A variety of techniques of measuring and predicting demand for health care services, based on the assumption that such demand varies by patients' age and sex. Variation usually is measured by five-year "age windows," as recommended by the WHO. Infants less than one year old and the elderly of 80+ years are on the opposite ends of the age scale. While controlling for the age/sex factor, risk adjustment models approximate health expenditure (i.e., health demand in value terms) by certain predictors of costs, each associated either with health status or supply of care. Studies on risk adjustment, performed on U.S. and European health data, led to the conclusion that the best determinant of health care costs is hospital utilization in the previous year. An acceptably accurate set of age/sex risk adjustors is represented, therefore, by age/sex group-average per capita hospital expenditure ratios. The average may be weighted, for example, to account for composition of hospital utilization by clinical specialty, since cost per patient day would differ by clinical department. The prior hospital utilization factor is less satisfactory as a cost predictor, in NIS health care sectors than in industrialized countries. This is due to uneven response of different age groups to low quality services and poor accommodations in NIS hospitals. The elderly would not go to the hospital, regardless of their high need.

Case Mix Intensity

From a financial or regulatory perspective, case mix intensity refers to the resource intensity demands that patients place on an institution or health care budget. From a clinical perspective, case mix intensity (complexity) refers to the condition of the patients treated and the treatment difficulty associated with providing care. Financial managers, therefore, discuss case mix intensity in terms of LOS and costs per patient discharge, while clinicians approach the same matter from the standpoint of severity of illness, prognosis, treatment patterns, and need for intervention. While the two interpretations of case mix intensity are often closely related, they can be very different for certain kinds of patients. For example, terminal cancer patients, on the one hand, are severely ill, and have a poor prognosis, and a greater treatment difficulty. On the other hand they require few hospital resources beyond basic nursing care.

Community Rating

A general method of establishing insurance premiums or provider reimbursement rates in which the individual's premium or capitation rate is based on the actual or projected per capita cost of health services used by members of a particular health insurance or provider plan in a given service area. Key methods of community rating are: (1)

determining premium rates based on projected plan-wide costs and revenue requirements for the coming year; (2) offering the same, or equivalent, premium/reimbursement rates to all employers for the same benefits; (3) updating the fixed community rates on an annual or quarterly basis, proportionate to inflation, premium revenue compliance rate, and inclusion of additional services, but applying the same rates to all subscribers.

Earmarked Payroll Tax

A special purpose tax, levied on employers and employees, but usually on both. In the context of health insurance, earmarked payroll tax may be mandated at a uniform or negotiable rate and applied to any income or income not to exceed certain level. The mechanisms of earmarked taxation vary, depending on whether they are utilized within compulsory versus voluntary, and public versus private health insurance systems.

Effectiveness and Efficiency

Effectiveness is a measure of progress toward the established goal. Efficiency deals with average and marginal costs of progressing towards and achieving the goal. Under constrained resources, it is believed that further progress towards the goal should be halted once incremental costs of making yet another step in the chosen direction exceed utility gained from such step. Alternatively, progress may be stopped earlier, while marginal utility still exceeds marginal costs, if the same amount of resources could be used more effectively to progress towards another, equally important goal.

In the context of health policy and health resource allocation, effectiveness usually relates to the ability of the health care system to maintain equitable access to and quality of care, while efficiency would measure output per given amount of resources.

Federally Mandated Definition of Financial Gap

Russia and other large NIS countries seek to establish fiscal federalism, whereby the federal government feels committed to the principle of making equalization payments to ensure that territorial governments have sufficient revenues to provide reasonably comparable levels of social services at reasonably comparable levels of taxation. To enable equalization transfer mechanisms, the central government has to establish and enforce a uniform definition of the national standard social service package (by major sector); and a uniform methodology to assess (i) actual compliance of each territory with the national standard; and (ii) each territory's economic self-reliance in matching the national standard. Respective rules and procedures comprise the *federally mandated definition of a financial gap*.

'Fine' Risk Predictors

The author has invented this term as the opposite to *crude* risk predictors (see, under Age/Sex Risk Adjustors), usually referred to age, sex, prior utilization, or standard mortality rates. Dozens of risk adjustors have been tested in addition to the basic determinants of health care costs listed above. Income, occupational status, industry of employment, and area of residence were found to be most relevant from the statistical viewpoint. It should be kept in mind, however, that all risk adjustors explain no more than 13-15 percent of aggregate health cost variation.

Health Administration

A department within a territorial government, in charge of health policy, public health programs, credentialing, quality assurance. Its financing functions have been largely transferred to Territorial MHI Funds, in compliance with the 1991 Medical Insurance Law. According to the law, most on-budget funding for a territory must be pooled at the Territorial MHI Fund in order to provide coverage for non-working populations, making the Fund, not the Health Administration, the principal purchasing authority on a given territory. Nevertheless, Health Administrations continue to provide on-budget funding for public health programs; most personal health services excluded from Territorial MHI Program; and medical training.

Health Insurance

A contractual relationship that exists when one party (the insurer) for a consideration (the premium) agrees to reimburse another party (the insured) for loss to specified health-associated contingencies, such as preventive services, disease, and disability. Dependent on the definition of such contingencies, compensation may be provided in cash (income lost to temporary disability; indemnification of individuals for their pharmaceutical and medical expenses), or, more common, in kind, whereby the insured is granted access to health services at the full or partial expense of the insurer.

Incentive-Based [Hospital] Reimbursement

This term usually denotes case-based payments, global budget, or variations/combinations of the two methods. Under case reimbursement, a hospital is allowed to treat as many patients as it can, as long as it complies with established admission and discharge criteria, and related parameters of clinical outcome. Payment is made retrospectively per patient discharge by a case mix rate, i.e. according to the resource intensity of hospital treatment, set as a standard relative weight for a given group of cases. A particular case is classified into a case mix group according to its principal diagnosis, lack or presence of co-morbidities/complications, kind of surgical procedure, and, sometimes, age and discharge status. The incentive under this method of reimbursement is to maximize output on a given amount of input resources. Hospitals seek to keep occupancy at a maximum, while

reducing ALOS.

Global budget limits total amount of hospital services. The limit may be established by clinical specialty or as a hospital-wide aggregate in combination with average case mix [intensity] index (See also, Case Mix Intensity.) The amount of reimbursement is the hospital average case rate times the number of patients, specified in the provider contract. Payments are made primarily on a prospective basis with periodic reconciliatory adjustments. The incentive here is to minimize input resources on a contracted amount of services. Lower unit costs allow a higher surplus of revenue over costs.

Market Share The ratio of a company's sales to total industry sales, in units or value terms. In mandatory health insurance, market share may be measured in percent of the total face value of policies issued, premium revenue collected, number of subscribers, or number of eligible population. Any alternative measure is acceptable as long as it is equally applicable to all the competitors.

Monopsonistic System See Single-Purchaser Health Insurance.

New Economic Mechanism A set of regulations, pilot-tested in the health care sector of three Russian oblasts in late 1980s, with the purpose of improving provider performance and strengthen primary care through financial incentives, associated with fund holding.

Nonprofit Organizations Also, Not-for-Profits. Organizations that do not operate for profit and comply with a set of stringent requirements that make them inherently different from investor-owned (also, proprietory, or for-profit) organizations. Nonprofits usually are required by law to operate for a charitable purpose and in pursuit of a public, rather than private, interest. No profits can be used for private distributions; no political activity will be conducted. If liquidation occurs, the assets will continue to be used for a charitable purpose. In many countries nonprofits enjoy broad tax exemptions and preferencial or exclusive access to certain types of investment instruments and methods of fund-raising. Importantly, nonprofits are required to maintain financial soundness and effectively fulfill their mission.

It is a predominant international practice that the health care sector is dominated by nonprofit service providers. As to the health insurance, the nonprofit insurer is the most appropriate type of carrier for systems oriented towards the values of social solidarity and operating within a framework of social security.

Pay-As-You-Go User Charges

Flat co-payment per visit, deductible, co-payment in percent of cost for non-network and out-of-area self-referrals, payment of full cost for services not covered by health insurance policy—these are charges levied on the patient (user of services) at the point of service. As such, they are considered as *pay-as-you-go charges*, even if paid afterwards. By contrast, co-insurance is a *prospective* user charge, unrelated to a patient's particular encounter with the health care system.

Relative Value Scale, Recalibration of

Case-based payments to hospitals, in their best developed versions, rely on case mix rate schedules. A case mix schedule is usually designed as a relative value scale (see, also Incentive-Based [Hospital] Reimbursement), i.e., a list of relative weights, each measuring resource intensity of a particular case mix group relative to case mix average resource intensity. Relative value scale remains stable over a number of year, thus sparing the effort of rating each case mix group on an annual basis. However, the relative value scale does require annual recalibration: adjustment of the monetary equivalent of case mix average intensity weight to changing case mix index and conditions of health financing. The value of unit intensity is marked up if the network-wide hospital budget is planned to increase. The value of unit intensity declines, however, if the case mix index is expected to outgrow the hospital sector budget.

Risk Selection

Also, Risk Rating, or Experience Rating. The process by which insurers seek to attract individuals or groups with below-average risk and discourage or refuse coverage to individuals or groups with above-average risk. Modern underwriting encompasses various techniques of risk selection. Unfavorable risks would seldom be turned away, but rather rated into a higher risk group or under-insured by means of lower reimbursement maximum, limited benefit package, higher deductibles, or restrictive definition of previously existent conditions.

Risk selection is practiced by providers of health care as well as insurers. Managed care plans, operating on a non-risk-related capitated budget, look for ways to restrict access for patients with a higher-than-average demand for services.

Single-Purchaser Health Insurance

Also, Single-Payor or Monopsonistic Health Insurance. A health insurance system that allows just one insurance organization on a particular territory. This is opposite to a competitive health insurance, whereby multiple insurance carriers compete for subscribers.

Stop Loss Co-Payment	Stop loss generally refers to a reinsurance arrangement, whereby one company (the reinsurer) guarantees another (the reinsured) that losses over and above an agreed upon amount will be paid by the reinsurer. In the context of fund holding, similar agreement may be established between a principal purchasing authority (e.g., Territorial MHI Fund) and a fund holding GP (polyclinic) with respect to hospital costs. Unlike in traditional reinsurance, ceding part of the risks to the Fund would not cost anything to the fund holder. However, the latter prudently avoids excessive hospital costs in order to stay within a prospectively paid capitated budget and, if possible, achieve some savings.
Territorial Mandatory Health Insurance Fund	A single purchaser of care on a given administrative territory. A Territorial MHI Find is a self-governed public institution, with the authority to collect MHI premiums from employers, sign contracts with providers, and pay them for the services included in the Territorial MHI Program (see below). The Fund deals with subscribers and providers through its local subsidiaries and/or independent insurance companies, accredited to operate under MHI.
Territorial Mandatory Health Insurance Program	As defined by the 1991 and 1993 laws, the Territorial MHI Program entitles the insured to a federally mandated package of health care services, plus additional services endorsed for MHI provision by a local government. The aggregate range of services usually is close to comprehensive. Customary exclusions are long-term inpatient care (TB, psychiatric), oncology, dermatology/sexually transmitted diseases, emergency care.

EXECUTIVE SUMMARY

In the late 1980s, Kemerovo, one of Russia's heaviest industrialized areas, was designated as one of three pilot sites to experiment with more incentive-based methods of provider payment as a means to strengthen primary health care, broaden consumer choice and increase provider satisfaction. By the 1990s, reformers in Kemerovo had become major players in exploring alternative payment mechanisms as part of the transition to Russia's mandatory health insurance system. This case study describes the concepts and approaches to health care financing reform developed in Kemerovo. Unfortunately, however, there is very limited documentation about how extensively the reforms were actually implemented and their results. The study ends with a summary of a health care financing model proposed by the team of reformers that builds on lessons learned in the first experiments, but this model remains to be debated, finalized and tested.

In 1993, the Russia Mandatory Health Insurance (MHI) reform took effect, enforced by federal law. The law made Russia's entire population eligible for comprehensive health care coverage financed from two sources: an earmarked payroll tax levied on employers to cover their staff, and on-budget premiums to cover government employees and non-working populations. Contributions from the two sources were to be pooled into newly created Territorial MHI Funds which would then pay accredited health care facilities to provide required health care benefits to patients. In actual practice, attempts to restructure the delivery system through financial reforms were weakened because the Territorial MHI Funds did not succeed in pooling funds from the oblast health administrations, which in most oblasts accounted for a majority of the funds. For this reason, among others, health insurance reform in Russia was not able to improve the financial status of the health care sector, nor to correct structural inefficiencies in the health care delivery system.

In contrast, in Kemerovo, financing reforms were designed to more aggressively tackle resource generation and resource allocation issues. For example, Kemerovo introduced a weighted capitation formula, (using age, sex and prior costs as adjusters) to allocate oblast resources to rayons and cities, and to allocate rayon funds to insurers. Together with reformers in Altai Krai, health researchers in Kemerovo worked to strengthen the financial sustainability of the MHI funds by developing financial models to simulate territorial MHI budgets, weighing projected earnings against projected outlays. Actual simulations of the 1996 health care budget in Altai Krai were done using two broadly defined scenarios, baseline and cost-minimizing, of which the latter was the most researched because it tested options for improving efficiency of the delivery system. By generating approximate estimates of the cost reductions that could be achieved from a variety of reform options, policymakers could see the relatively greater impact on efficiency of promoting outpatient services, downsizing hospitals, reducing the types of services covered under a benefit package and reallocating beds among specialties. As with national reforms, attempts in Kemerovo to restructure the delivery system through financial reforms were hindered because the Kemerovo Territorial MHI Fund did not succeed in pooling funds from the oblast health administrations, which in Kemerovo accounted for about 70 percent of the funds.

As part of the financing reform, researchers in Kemerovo developed a case-mix payment system for hospitals based on 1,500 clinical statistical groups. In theory, hospital patients are grouped according to principal diagnoses, several comorbidities and surgical procedures. The payment system included significant performance-related incentives by allowing hospitals to keep surpluses from shorter lengths of stay, but penalizing them for above average lengths of stay. Quality was monitored by checking the degree of compliance of medical treatment against the treatment protocol for the specific clinical statistical group. Some evidence suggests that the case-based payment system has reduced length of stay, increased the use of outpatient services, improved quality of care, and motivated hospitals to strengthen cost accounting and cost management systems. On the other hand, in actuality, clinical statistical groups lacked some important design features (prospective payment and utilization management) such that hospitals were motivated to treat more and more patients and consume more and more resources. In addition, as a result of pressure from physicians, clinical statistical groups evolved into a complex set of unmanageable number of groups, e.g., numbering up to 10,000 to 12,000 Medical Economic Standards.

On the outpatient side, Kemerovo reformers made several attempts to test new methods of payment for ambulatory care as a means to establish preventive and primary care as a health policy priority. In the 1980s, Kemerovans tested the New Economic Mechanism which created polyclinics as full fund holders in charge of paying referral outpatient and inpatient providers for their services. The organizational framework of polyclinics and referral providers were known as Territorial Medical Amalgamations. This experiment failed to achieve its objectives for a number of reasons including: (1) absence of new regulations to grant health facilities more management autonomy; (2) inability to reallocate resources within the budget among line items, or from norms; (3) absence of competition between Territorial Medical Amalgamations; (4) inability of polyclinic management to lead and organize heterogeneous group of specialists and primary health care doctors; and (5) limited patient choice among polyclinics.

In the mid-1990s, Kemerovo launched new approaches for both inpatient and outpatient financing. Fee schedules for day surgery, day-beds and home care were established. Dental care was transferred to resource-based relative value scale payment system. Polyclinics were paid according to a risk-adjusted capitation rate for most services, but using fee-for-service for preventive services. The capitation rate was determined by first dividing oblast health funds into two pools: one for inpatient services, and the other for outpatient services. Funds for outpatient services covered polyclinics and dentists. A system of partial fund holding was also instituted for polyclinics, since they were not yet ready to assume the broad financial responsibilities and risks associated with full fund holding. Under partial fund holding, polyclinics received a share of inpatient costs out of which they paid a share of the costs of care (either a uniform percentage or a stop-loss copayment) for patients referred to the hospital; the remainder of inpatient costs was paid for by the insurance company. It is too early in the experiment to evaluate results.

Based on the history of reforms in Kemerovo and the lessons learned, reformers have identified important areas for further research. Highlights include: (1) quantifying the expected magnitude of desired restructuring in terms of numbers of hospital admissions, number of visits, etc., for each level of health delivery; (2) finding ways to give polyclinic specialists more hospital

privileges so that they can upgrade their skills to assume greater medical responsibilities in outpatient settings; (3) determining which partial-fund holding mechanisms will encourage polyclinics to provide more hospital-substituting services; (4) evaluating the inpatient system of payment based on clinical statistical groups to ensure that it provides strong incentives for hospital efficiency, including the reduction of hospital admissions; (5) choosing a variety of tools from business management practice to carefully assess the cost and quality implications of various options for hospital rationalization, especially those which trim fixed costs; (6) refining the ambulatory capitation system to increase incentives to include a fuller range of diagnostic services in polyclinics; (7) refining ambulatory Medical Economic Standards to deal with outpatients that are often treated without receiving a diagnosis; (8) finding a way to increase extremely low levels of capitation payment at a pace commensurate with economic recovery; (9) developing procedures that insurance companies can use to identify and reimburse cases that could be shifted from a hospital to an ambulatory setting; and (10) developing management information systems that use a selective approach to information generation, reporting and processing (e.g., using information for a particular purpose of health care management and financing).

Based on lessons learned and further research, Kemerovo reformers are proposing to develop a health care financing model which builds on competing integrated health systems (IHS). This model is still under discussion and remains to be implemented. The strategic focus of the proposed reforms would be to improve coordination of ambulatory care providers with inpatient facilities and with payers. The IHSs would be financed as a whole, based on an integrated capitation rate that would include up to 90 percent of projected costs. At the beginning of each fiscal year, an IHS would receive a budget, established as a per capita rate, multiplied by the number of IHS subscribers. The capitated budget would match the defined benefit package, comply with general constraints in the territorial health care budget, and be negotiated with and accepted by the payer who serves the local community and provides funding to a given IHS.

The delivery system would be integrated, but composed of autonomous facilities at each level of health care. For example, polyclinics would be financially and legally separated from hospitals. However, all levels of care would be aligned by IHS-wide cost and utilization standards. Risk/bonus pools will address the need for a better coordination between outpatient and inpatient facilities in order to move services to outpatient settings. Primary health care doctors could be established as autonomous units within a polyclinic or as detached centers.

The model would experiment with partial-fund holding for general practitioners (GP), where the GP would cover the costs of primary care, outpatient specialty care, ancillary services, ambulance/emergency services, 20-30 percent of inpatient care provided by a participating IHS hospital, and non-network services. For inpatient services, the IHS would play a secondary role, allocating a relatively minor share of funding directly to participating hospitals. Instead, the insurance organization would negotiate the volume and parameters of care with the hospitals. This might occur in the form of a case-mix adjusted global budget where the volume of hospital care and rates of reimbursement are negotiable.

Clearly, the proposed model of health care reform for Kemerovo entails major changes in legal, financing, management and service delivery systems. Much work remains to transform these innovations into practice and then to evaluate their results.

INTRODUCTION

This case study is based on the following four types of input information, listed in order of decreasing importance: (i) reports and manuals produced in English and Russian by Zdrav*Reform* Program-affiliated experts from Kemerovo-based institutions and the Program's ex-patriate consulting force. A list of the publications concludes this material; (ii) verbal discussions between the author and key Kemerovo experts at conferences and other meetings over the life of Zdrav*Reform*; (iii) e-mail exchange and phone conversations that the author had with Kemerovo while working on the case study; and (iv) the author's prior knowledge of the Kemerovo health care system, acquired over years of research, policy advisory, and consulting work in Russia including direct collaboration with the leaders of the Kemerovo experiment in 1989-90, when he chaired the Ministry of Health (MOH)-sponsored task force on health insurance legislation in the Soviet Union.

It should be emphasized, however, that the author has not worked in Kemerovo as a Zdrav*Reform* consultant. For that reason, he relied primarily on the written materials mentioned above for information on the latest developments in the Kemerovo health care system.

The following considerations defined the composition and the contents of this case study:

1) The Kemerovo health care sector operates in a political, legal, and economic environment of Russia's national health care system. Despite all the exemptions that the Oblast Health Administration managed to acquire from Moscow, federal regulations still dominate the local health care system. To understand priorities and approaches advocated in Kemerovo, the reader needs proper insights into the national health policy shell, and therefore it is advisable to first read Annex 2, a broad overview of the foundations and the evolution of health care reforms in Russia. Section 2 of this report gives a more cursory description of the national health care reforms.

2) The documented evidence used for this study is sufficient to evaluate the concepts, approaches, and techniques of innovation. There is almost no conclusive evidence on the implementation process, however, due to inconsistent reporting. Most of this problem may be attributed to two factors: (i) Implementation has been generally impeded and delayed by deep economic and fiscal crises experienced throughout Russia, and particularly in Kemerovo Oblast, over the past seven years. (ii) Professional interests of the reform architects in Russia are closer to the intellectually intensive areas of conceptualization, design, and earlier stages of experimentation, than to the less inspiring endeavors of applying new systems to practical management needs, nor to measuring feedback responses in various segments of the system. Less-than-optimal focus on management and performance outcomes, customary of the reform culture in Russia, allows to assume that much less has been implemented than conceived and developed into a blueprint. Does this devalue the Kemerovo experiences?—Not at all. Even though existing only on paper, in manuals and software instruments, many of these experiences represent the state of the art, by CIS standards, and are yet to be mastered by reform designers in most parts of the former USSR. Importantly, those are highly replicable experiences too, since

they cover generically important areas of health care reforms and are already adapted to the socio-economic settings of the former Soviet countries.

3) In order to remedy the lack of documented knowledge on the current status of Kemerovo reforms, the author sent a three-page questionnaire to his Kemerovo colleagues, specifically addressing the following individuals and institutions: Dr. Roman Zelkovich, director, the Kemerovo Oblast Center of Medical Informatics; Dr. Lyudmila Isakova, director, the Siberian Foundation for the Development of Social Services and Insurance Management; Prof. Galina Tsarik, director, the Institute of Social and Economic Issues of Health; and Ms. Natalya Nelepina, director, the "Kuzbass" Sickness Fund, Kemerovo's largest insurance company. Only part of their answers were submitted in time for inclusion in this case study. Those are featured in five boxes and shed light on such key issues as sources of health financing, competition in health insurance and service delivery, provider reimbursement, and provider autonomy. Their assessments suggest that actual implementation of health reforms has encountered many obstacles. For example, funding has not been effectively pooled at the Territorial Mandatory Health Insurance (MHI) Funds, and the opposition of the Oblast Health Administration to MHI remains as entrenched in Kemerovo as in most parts of Russia.

4) The subject of this study is innovation in health financing. It is not intended to be all-inclusive. The study deals with the mechanisms of health resource planning, as well as resource allocation to the territorial health budgets and providers of services. Mechanisms of structural adjustment in the service delivery system are inseparably linked to health financing reforms and, therefore, are covered as well. Several other subject areas, e.g., quality assurance and management information systems, are covered superficially if at all.

5) The case of health reform innovation in Kemerovo is considered in the study as a continuum in two senses: (i) It began long before the advent of Zdrav*Reform* and, hopefully, will keep momentum long after Zdrav*Reform* completes its mission. We should be realistically modest in evaluating the Program's contribution to this broad and sustainable process. Such contribution might have varied from taking conceptual leads in some areas, to supporting others with training, techniques, instruments, or just a piece of advice. The study does not consider the issue of who proposed and did what. Its general assumption is that the reforms in Kemerovo are driven by local initiative, while exchange of knowledge and skills is going both ways, benefiting international consultants no less than their Kemerovo counterparts. (ii) The study equally honors pieces of reforms that may be considered as *fait-accompli,* those underway, and those just conceived. The author's job was to select pieces of particular methodological relevance, no matter where they belong in time. A congruous set of ideas and a successfully implemented innovation are given equal consideration in this study. The difference in implications between both categories would not be that great anyway, since demonstrable outcome effects are not in the reports.

6) The author tried to stay impartial in his judgment, by avoiding judgment at all. Implicitly, he expressed his interest in certain pieces of innovation by selecting them for this case study. It does not necessarily mean, however, that the Zdrav*Reform* Program or the author share all micro-

decisions, that underlie any particular approach, or give unconditional preference to these approaches over others, which may not even have been tested in Kemerovo.

1.0 GENERAL BACKGROUND

1.1 Socio-economic Environment

Kemerovo Oblast is one of the larger of 88 oblasts (administrative units) and Constituent Members of the Russian Federation. It is located in the southeast of West Siberia and has a territory of 95,500 sq.km. and a population of 3,078,000 (1995). The demographic and health problems of Kemerovo Oblast (Table 1) are reflective of those nationwide, yet are exacerbated by environmental and workplace hazards, particularly a stressful economic, social, and political situation.

Kemerovo Oblast is the geographic and economic core of Kuzbass region, Russia's most important coal-mining area. Coal mining used to be the most heavily subsidized industry in the centrally planned Soviet economy. As energy price deregulation got under way, starting in 1992, the local economy entered a deep recession, exacerbated by an abysmal structural crisis. In August 1996, 44 percent of local enterprises were in the red. While this number looks disastrous by international standards, it is only slightly higher than the Russian national average of 40 percent. What makes the situation really worrisome, if not threatening, however, is that employment and household incomes in Kemerovo are driven by the industry, now unable to recover its operating costs and with little hope that it can break even in a historical perspective. Much of the newly mined coal accrues to inventory, since impoverished public and commercial

Table 1. Demographic Growth and Health Status of the Population of Kemerovo Oblast and Russia, 1994-95

Indicator	Kemerovo	Russia
Birth Rate, 1995, per 1,000	9.2	9.6
Death Rate, 1995, per 1,000	17.2	15.7
Demographic Growth, 1995, per 1,000	(8.0)	(6.1)
Infant Mortality Rate, 1995, per 1,000 Live Births	19.3	18.6
including, in Rural Areas	28.6	20.1
Mortality by Selected Cause, Age-unadjusted, 1994, per 100,000:		
Infectious and Parasitic Diseases	27.5	20.1
Neoplasms	205.5	206.6
Diseases of Circulatory System	868.1	837.3
Diseases of Respiratory System	95.4	80.8
Diseases of Digestive System	48.2	44.1
Accidents, Injuries, and Poisonings	379.5	250.7
Retirement-age Population, 1995, Percent of the Total	19.9	20.2

consumers cannot afford Kuzbass coal at the cost-recovering price. A radical institutional reform and structural correction is overdue and should involve massive elimination of loss-making

mines, denationalization of the entire industry and essential infrastructure, rationalization of the few potentially viable mines through upgrade of technologies, drastic cuts in production costs, displacement of tens of thousands of workers, creation of re-training programs and public works that would get the families through the unemployment, and last but not least, creation of strong incentives for small business.

Little has been done so far to adequately address these objectives. Amid nationwide economic disarray and indecision of local authorities, the population is suffering from months-long wage arrears, having neither experience nor guidance from the government on how to survive in this non-sustainable socio-economic environment. Massive strikes have become commonplace, driven by the miners' demands to the federal government to rescue them. Unable to ignore those claims in fear of political consequences, Moscow, however, does not extend its policy beyond quick fix solutions, such as lump-sum cash transfers to Kemerovo Oblast and "paperwork" wage increases—to be cashed some time in the future. A slow and painful transition is just beginning in people's minds from paternalistic misconceptions towards self-reliance.

1.2 Background For Health Reforms

Kemerovo's experiences demonstrate that the critical ingredient to successful health care reform is the personalities engaged in the reform process. In terms of health management innovation, Kemerovo is unique in the former USSR due to a rare combination of medical and data-processing expertise, brought together 15 years ago in the Laboratory for Research in Medical Cybernetics.

The laboratory pioneered development and application of computerized information systems to enhance clinical and administrative decision-making. An automated data base of 200,000 patient records was created and made available for computer-assisted analyses. It has become the carrier for subsequent studies, associated with the development of Medical Economic Standards (MES), medical record keeping, costing, billing, and polyclinic management systems; and, later, for activities in the area of continuous quality improvement.

Early initiatives of the mid-1980s attracted positive attention from the MOH in Moscow. Kemerovo Oblast was designated as one of three pilot sites, along with Leningrad Oblast and Samara (formerly Kuibyshev) Oblast, to experiment with more incentive-oriented methods of reimbursement in order to strengthen primary care, broaden consumer choice and increase provider satisfaction. This was part of a wider effort of the Soviet government to revive financial incentives in the social service sectors.

Adopted in 1986, the New Economic Mechanism was tested on an experimental basis in the three oblasts and had mixed results. Kemerovo shared both successes and failures of the experimentation and learned from both. The lesson, in fact, was twofold: (i) To be able to achieve health gains and benefit from performance-based incentives, providers of services must acquire skills in health and business administration, while clinicians must upgrade their

professional skills. (ii) Incentives *per se* are not viable unless supported by broad institutional change. In a nutshell, providers, particularly fund holding primary practices, received incentives to be efficient by re-focusing on prevention, general outpatient care, hospital-substituting specialty services, and prudent utilization of hospital services. However, they had neither enough knowledge nor skills to become effective general practitioners (GPs) and gate-keepers, nor the ability to manage referral and resource allocation patterns on a system-wide scale. Second, in a suffocating environment of bureaucratic over-regulation and micro-management, providers could not get nearly enough autonomy to be able to optimize their clinical and business behavior according to the incentives. It is the bitter legacy of the new economic mechanism of late 1980s that drives the current tide of interest towards integrated health systems in Kemerovo (see Section 4).

In the early 1990s, the same group of increasingly experienced innovators in Kemerovo catalyzed Russia's transition to mandatory health insurance. The MOH endorsed Kemerovo's early start in exploring alternative mechanisms of allocating funds to and within the health care sector. As a result, Kemerovo shaped some of the most idiosyncratic features of Russia's MHI mechanism.[1] The Cybernetics Laboratory core staff continues to provide research and development and consulting services to the national MHI system, innovative mechanisms of rate setting, competitive contracting, allocation of resources across various levels of care, billing and payment, and utilization and quality control. Some of the latest developments in these areas are presented in Section 3.

Several factors have interacted to stimulate an impressive range of conceptual and technical innovation in the Kemerovo health care sector of the 1990s as well as an important "can do" attitude among the key contributors. Early successes attracted more intelligent people, who brought their innovative ideas and experiences, and attracted, in turn, greater resources, and a greater willingness of the federal government to exempt the oblast from certain regulatory constraints. This environment continues to attract people, creativity and innovation, and financial resources, from other regions in Russian and other countries.

In the 1990s, a powerful reinforcement to domestic innovators came from the international community of health policy advisers, economists, and administrators, as well as experts in the clinical areas of health care reforms. Exposure of Kemerovo's innovators to the global experience through participation in scholarly seminars, international grants, and study tours as well as international consultants' visits to Kemerovo, have yielded a synergetic learning experience which benefits both sides. Over the past five years Kemerovo has outgrown domestic health policy reforms in Russia. Having tested many recipes from the international menu of health policy options, it has evolved into a case of successful cross-cultural fertilization. Some options have successfully undergone the challenges of adaptation to the hostile institutional environment of the Russian health care sector. Others, even though ultimately rejected,

[1] A controversial blend of the single-purchaser health insurance market, as embodied in territorial MHI Funds, and the competitition, driven by multiple insurance companies and accredited by the Funds to perform certain functions in the MHI system, was created in Russia with the help of Kemerovo reform architects, who in their capacity as advisers to the Federal MHI Fund could pursuade the national leaders of the MHI system to replicate the Kemerovo approach nationwide.

generated a meaningful experience, shedding light on the strengths and weaknesses of the tested approaches and instruments, and contributing equally to the experience of both donors and recipients of the innovation.

2.0 IMBALANCES IN THE INHERITED HEALTH CARE SYSTEM

Reforms in the Kemerovo health care sector were triggered by and are progressing amid growing dissatisfaction with the system of health service financing and delivery, as inherited from the Soviet past.

The weaknesses of this system may be broadly viewed as lack of financial, clinical, and organizational integration among providers of services. Regulatory flaws and absence of economic incentives prevent health facilities from coordinating their clinical practice and referral patterns. Basic instruments of such coordination, e.g., utilization targets, criteria of clinical appropriateness, or disease prevention strategies, hardly exist. The following features provide a more detailed view of the problem:

1) All providers are reimbursed for their costs, rather than for population or patient health gains. This makes the health care sector supply-driven and cost-incurring, not health- oriented and cost-conscious.

2) Every type of provider, e.g., hospitals, polyclinics, ambulance service, pharmacies, is funded independently, regardless of system-wide performance. As a result, health care facilities of different levels are rarely linked to one another by financial incentives. This adds to disintegration of the health delivery system and disallows coordination of services that could be benefit both health outcomes and cost efficiency.

3) Traditionally inflated utilization, i.e., unjustifiably high numbers of outpatient physician visits, hospital admission rates, and average length of stay (ALOS), is artificially maintained by all providers of services, responding to such payment incentives as number of doctor/patient encounters, hospital beds, and patient-days. However, in pulling the blanket of scarce funding, inpatient care providers have an upper hand over outpatient providers, specialists over GPs. Primary care physicians are the weakest players in the system. They are frequently cited for their inability to assume a more active role in preventing disease and detecting and curing it at an early stage. Furthermore, they are considered the least responsive to financial incentives.

4) The hospital sector is structured in ways that preclude efficient utilization of resources. General hospitals account for about one-third of all inpatient facilities. The rest are narrowly specialized clinics, particularly those providing long-term services. Within general hospitals there are a large number of narrowly specialized clinical departments. Excessive specialization, both facility-wise and across the inpatient sector as a whole, impedes flexible reallocation of resources among clinical specialties and providers. Capacity utilization is low, uneven, and difficult to adjust to ever-changing demand/supply conditions.

5) The regulatory environment in the health care sector causes even more problems. Territorial Health Administrations exert rigid bureaucratic control over providers of services. Punitive micro-regulations prevail over incentive-driven mechanisms of self-regulation. Intending to police health care facilities for minor deviations from staffing schedules, unit norms of financing, shifting funds across cost categories, or streamlining clinical protocols, the regulatory center overlooks the most obvious inefficiencies and distortions such as inappropriate admissions, low surgical activity, exorbitantly high ALOS, particularly in medical departments, idle if not uninstalled costly equipment, a stream of under-the-counter payments, and consumer complaints.

6) Beyond the over-regulated setting there is a vast uncharted territory of management practices that are not legally restricted, yet would not be used to the benefit of purchasers and providers of care because of lack of knowledge and experience. Modern techniques of costing and rate setting, financial analyses, competitive contracting, outsourcing, and utilization control are but a few examples of the terrain yet to be discovered and explored by health managers.

These inadequacies in structuring and administering health care services have resulted in multiple systemic inefficiencies. Some of them are illustrated below:

- 65 percent of health funding is allocated to inpatient services, versus 45 percent on average in OECD countries;

- the share of doctors in primary care does not exceed 20-25 percent, versus 40-50 percent in the industrialized world in general, and 60 percent in Canada;

- hospital admission rate is 21 percent versus the 16.2 percent OECD average;

- ALOS is 16 days versus a 14.4 day average for OECD countries;

- more than 30 percent of primary visits result in referrals to specialists, versus 4-10 percent in industrialized countries.

Structural imbalances could hardly be corrected with additional funding *per se*. Nevertheless, it is resource generation issues, that absorb the health care policy reform agenda in Russia, leaving out most of the problems of the health care sector's internal inefficiencies.

BOX 1. THE EVOLUTION OF REFORM GOALS IN KEMEROVO

Statement of the New Economic Mechanism (1987)

- To adapt health administration to a more market-oriented setting;
- To improve coordination in health care delivery so as to adequately address a comprehensive range of health care needs, including outpatient services, hospital services, socio-medical prevention, rehabilitative care, specialized services, catastrophe medicine, company-based services;
- To diversify sources of health care financing;
- To diversify ownership structure in the health care sector, particularly, to create favorable environment for government-owned, municipal, and private providers of services;
- To reform and strengthen systems of quality control;
- To build up health management infrastructure;
- To increase emphasis on continuing medical education and peer review procedures;
- To set up management information systems in the health care sector;
- To improve the social links of the health care sector by empowering the community to promote health as a valuable asset;
- To create a legal basis to facilitate the health care sector's adaptation to a market economy.

The Concept of Further Development of the Kemerovo Health Sector and Primary Care Reform (1997)

(Summarized by Prof. Galina Tsarik, director, The Institute of Social and Economic Issues of Health)

- To re-focus the entire health care system on cost-containment mechanisms and shifting care to the outpatient sector;
- To improve quality of services by implementing modern systems of quality management;
- To increase accessibility of medical and social services by creating a network of general physician practices and strengthening outreach care;
- To move health care management towards self-regulatory mechanisms and financial incentives for providers;
- To develop an environment that \increases patients' trust in primary care physicians, particularly, in general practitioners;
- To increase consumer satisfaction in the primary care sector;
- To prepare patients to assume more responsibility for their health.

In 1993 MHI took effect, enforced by a federal law. The law makes Russia's entire population eligible for comprehensive health care coverage financed from two sources: an earmarked payroll tax[2] levied on employers to cover their staff, and on-budget premiums to cover government employees and non-working populations. Contributions from the two sources are pooled into the newly created Territorial MHI Funds, which pay accredited health care facilities to provide required health care benefits to patients. Either the Territorial MHI Fund's local subsidiaries or, as in Kemerovo, independent non-profit insurance companies underwrite employers for MHI. Premium revenue, generated under group contracts, accrues to the Fund, which then reallocates

[2] Double-underlined words are disclosed in the *Glossary of Terms* at the opening of this case study report.

most of the revenue back to the insurers using an age/sex-adjusted rate per subscriber. Since community rating restricts risk selection, competition among insurance companies is focused on market share, with competitive advantage coming from the consumer-friendliness of a carrier in dealing with employers, its ability to enforce MHI tax compliance, its exercise of self-restraint as regards administrative overheads, and its ability to gain Territorial MHI Fund approval by effective control of quality of care.

After a year of organizational disarray, health insurance reform took off in 1994 and has been gaining momentum ever since. The MHI administrative network has been created, population coverage is growing steadily, and premium collection and provider reimbursement mechanisms are improving. However, because of continuing economic recession and persistent shrinkage of budget general revenue, MHI has not been able to increase health financing at all: A drastically reduced amount of public spending on personal health services—by two-thirds in 1991-95—has offset by a broad margin whatever additional funds could be raised from the new payroll tax. Government/employer spending on health care in Russia still accounts for approximately 3.5 percent of its gross domestic product (GDP), yet today the GDP is 40 percent of what it was five years ago. A massive and largely unregulated shift of variable health care costs onto the patients filled financial gap only in small part, while equity in access to services was hampered severely.

In summary, health insurance reform in Russia did not deliver on its promise to improve the financial status of the health care sector. What is perhaps even more disappointing, MHI failed to correct structural and motivational dislocations in health delivery system. Territorial MHI Fund subsidiaries and private insurance companies opted for the role of financial intermediaries, passively disbursing funding from Funds to providers of care. Risk-adjusted capitation as a tool of resource allocation by territory or health insurance plan became excessively focused on supply-induced determinants of costs, such as the number of hospital beds and personnel. Historical utilization still determines the amount of funding for health care providers. Selective transfer of hospitals on incentive-based reimbursement, backed-up neither by admission and discharge appropriateness criteria nor by utilization restrictions, resulted in a cost explosion and increased financial pressure in local health care systems. Competitive contracting has not become common practice. Territorial MHI Funds and their financial intermediaries have neither the willingness nor authority to eliminate redundant providers and entice the potentially viable ones into rationalization. Slight reduction of bed capacity, achieved by administrative means rather than economic incentives, did not lead to any substantial savings on fixed costs due to inadequate management of the downsizing. Providers have not been granted autonomy that could empower them to behave effectively and efficiently.

In contrast to the above, economic experimentation in the Kemerovo health care reform agenda has balanced resource generation and resource allocation issues, specifically, internal allocation mechanisms. The objective became twofold: (1) transform Territorial MHI Fund and affiliated insurance carriers from passive transaction centers into prudent buyers of services, able to create competition among providers and manage it to the benefit of equitable and cost-efficient delivery of health services; and (2) introduce performance incentives for health care providers that could be used by the purchaser to encourage the medical profession to be more productive and customer-oriented, while containing costs.

3.0 INNOVATIVE APPROACHES TO RESOURCE ALLOCATION

The 1991 federal Health Insurance Act created a controversial blend of single-payor and competitive market in Russia's insurance-based system of health financing. On the one hand, the Territorial MHI Fund network represents a clearly monopsonistic system, designed to provide comprehensive health coverage to a given territory from a single source of payment. On the other hand, the local Fund delegates to multiple insurance carriers important intermediary functions, such as writing policies and disbursing funds to providers. In most territories underwriters compete for Fund contracts. Such a system—with third (Fund) and "fourth" (insurance companies) parties—implies that a large amount of funds go to multiple overheads. Furthermore, competition among insurers offsets advantages of the single-payor market. Competition has both advantages and disadvantages, and it is hard to say so far which have prevailed. For example, in the first few years of MHI operation, the total number of the insured persistently exceeded the number of resident population in two major cities of Kemerovo Oblast. This was due to insurance companies double-counting some residents and demonstrated a lack of coordination among multiple insurers. On the positive side, health care sector leaders in Kemerovo believe that by operating in relatively small designated areas, insurance company can exert a positive influence on the issues of quality assurance, control utilization, and customer satisfaction.

More worrisome is the issue of risk selection. Sophisticated mechanisms of risk-adjustment, pivotal to equitable access of health coverage in a competitive insurance marketplace, were not present—and were not be expected be present—from the onset of MHI: They require vast conceptual experience and a solid empirical base, both usually absent in the emerging health insurance markets. Underwriters quickly realized that they would not be penalized for skimming cream. The threat of risk selection has become real and present.[3]

3.1 Risk-Adjusted Capitation

Kemerovo decided to address the problem of risk selection as early as possible by introducing a *weighted capitation formula*. Age, sex, and prior costs have been built into the formula as the three most important cost predictors. A two-step algorithm was applied to calculations.

As the **first step**, rayon risk-adjusted *per capita* amounts of health *financing* (PCF*)* are estimated to allocate the oblast resources to cities and rural rayons.[4] PCF is the product of the oblast-wide *per capita average* health financing (PCA*)*, rayon aggregate age/sex per capita cost variation

[3] For the sake of accuracy, it should be explained here that the volume rather than quality of risks are of primary concern to MHI-accredited insurance companies in Russia: the amount of their operations budget is proportionate to sales revenue, thus encouraging them to write as many policies as possible. Nevertheless, minimization of claim reimbursement by means of risk selection is still of great advantage to the insurers. Operating savings allocated to reserves and invested short-term, yield a significant amount in investment income, given the exorbitantly high return rates on major financial instruments in Russia.

[4] *Rayons* are districts, smaller administrative units within an *oblast.*

ratio (ASV), rayon aggregate per capita prior cost variation ratio (PCV), and rayon health status ratio (HS):

$$PCF = PCA*(0.2*ASV+0.8*PCV)*HS$$

ASV and PCV factors are estimated, based on *hospital* costs. The latter is considered as an accurate proxy of *total* costs in any health care system, particularly in one where three-fourths of health spending is associated with inpatient care.[5] ASV is a sliding annual average for three previous years. Age/sex groups are arranged by five-year intervals. PCV as a prior cost factor accounts primarily for supply of hospital beds and case mix intensity. Weights of, respectively, 0.2 for age/sex adjuster and 0.8 for prior-cost adjuster are set out and subject to periodic changes by the experts. The HS factor accounts for short-term disability rates, estimated by industry. Health status, thus, is an aggregate of industry-specific disability rates and reflects rayon-to-rayon variation in employment mix by industry. It is not clear whether only occupational or total disability is taken into account by the HS factor.

As the **second step**, *individual net premiums* are estimated by multiplying the rayon-specific PCF amount by ASV ratio applicable to a particular subscriber. Based on this formula, the allocations are made from the rayon budget to specific insurers, taking into account an age-sex structure of a particular insurance pool.

The capitation formula for non-employed populations is based only on age and sex variables, since data on prior expenditures for these categories is unavailable.

The risk-adjusted capitation formula is considered in Kemerovo as the cornerstone of managed competition in the regional health care sector. Its continuous refinement by means of inclusion of *finer* risk predictors, as opposed to such *crude* ones as age, sex, and historical costs, remains the driving force behind improving management information systems in the oblast health care sector.

3.2 Financial Modeling for MHI Sustainability

Sharing a grant from the Zdrav*Reform* Program, management and information systems (MIS) experts from two contiguous territories, Kemerovo and Altai Krai,[6] developed an iterative

[5] Approximately 200,000 inpatient cases were processed, accounting for age, gender, diagnosis, and cost and length of treatment.

[6] Altai Krai is one of the 89 constituent members of the Russian Federation. It has a territory of 169,100 sq.km., comprising 60 rayons and seven city districts, and a population of 2,697,810 (1995). Urban populations slightly exceed rural populations (52.1 versus 47.9 percent). Provision of hospital beds is 113.3 per 10,000 resident population, and declining steadily. The main contributing factor for this trend is underfinancing. Efficiency considerations increasingly affect resource allocation decisions as well. The health care sector employs 9,143 physicians and 23,941 mid-level health personnel—respectively 34.0 and 86.6 persons per 10,000 population. Both numbers are substantially below the national averages of 39.3 and 94.4. Altai Krai ranks 45th among Russia's territories in terms of per capita health financing.

financial model to simulate territorial MHI budgets. The overall purpose is to strengthen MHI financial sustainability by balancing its revenues and outlays. The algorithm includes the following five components:

1. Revenue projection for alternatively set compliance rates, in baseline prices;

2. Cost appraisal of the Territorial MHI Program, based on baseline referral, utilization, and cost patterns;

3. Adjustment of Territorial MHI Program outlays and revenues for projected inflation rates, differentiated by cost category. Baseline cost composition is used to calculate weighted average inflation rate from cost-specific projected inflation rates (Laspeyres type of index);

4. Alignment of the Territorial MHI Program with a federally mandated definition of financial ~~gap~~. Such compliance is important to ensure eligibility of the oblast for federal equalization transfers;

5. Iterative adjustment of costs to revenues by shifting care across alternative types of providers and reducing unit costs across the board.

Below is a more detailed description of the planning process by its two most important stages.

3.2.1 Projection of Revenues

Territorial MHI Program revenue is projected from four sources of funding:

1. Employer contributions. First, oblast payroll is projected as the tax base for MHI premiums. Average annual rate of change for at least three preceding years is extrapolated into the planning period. Heuristic adjustments in the baseline rate of change are appropriate. Second, the compliance rate is projected by extrapolation from the baseline period. Third, projected payroll is multiplied by the contribution rate and by compliance percent rate, yielding projected revenue from employer contributions.

2. Contributions from local (city and rural district) budgets to cover non-employed populations. So-called consolidated oblast budget revenue—both oblast and local budgets, including net transfers and off-budget funds revenues—expected in the planning period is multiplied by percent share of on-budget health expenditure, the latter extrapolated from the baseline. A

Of 256 hospitals, only 112 facilities provide services under MHI. Of 191 stand-alone outpatient facilities an insignificant 10 percent entered into contractual relationships with MHI. The Altai Krai Health Administration (HA) constitutes a case of staunch opposition to MHI in Russia, considering the MHI institutional network as a redundant intermediary in the health care sector. Not surprisingly, the HA turned a deaf ear to the federal MHI legislation. The HA remains the main purchasing authority, allocating the bulk of recurrent funding directly to providers. This is in sharp contrast to the policy of the neighboring Kemerovo Oblast, where health financing has been driven from the onset of MHI by a full accord between HA and TMHIF.

share of on-budget allocations to MHI is used as a multiplier, if MHI was in place in the baseline year.

3. Transfers from the Federal MHI Fund. The guide to methodology suggests that the outlook should be based "on prior experience" [12: p. 29].

4. Returns on investments by the Territorial MHI Fund. The guide to methodology simply states that this is "a relatively easy part of the overall projection algorithm, since it simply takes into account expected investment conditions" [12: p.31]. In reality, to project investment returns in Russia's volatile financial markets is anything but simple. The authors of the methodology, however, shy away from elaborating on this sensitive issue. Investment practices of the Fund are thoroughly under-regulated and, most likely, remain closed to proper auditing. Investment portfolios are not disclosed; their risk parameters are not publicly evaluated; gains and losses are not reported. There is no point, therefore, to discuss investment-related methodological issues.

3.2.2 Projection of Costs

Baseline costs must be adjusted to match projected revenue. Such adjustment is performed through a number of iterations. A comprehensive model of financial flows in the oblast health care sector enables estimations of cost impact from a variety of cost-containment changes that have already occurred or are expected in the delivery of services:

- Reduction in the number of hospital admissions by shifting care to outreach and day-time hospital services.

- Reduction of inappropriate referrals to health care facilities of upper administrative levels. In particular, redundant referrals to teaching hospitals of patients who might be treated in central (rural) rayon hospitals, represent an important inefficiency, which must be evaluated for its impact on system-wide costs.

- Reduction of ALOS by intensifying clinical activities at the hospitals.

- Reduction of ALOS by enhancing pre-admission diagnostics.

- Better coordination of care, particularly by improving continuity between inpatient and rehabilitative outreach services.

- Establishment of health care facilities of innovative types, e.g., day surgery centers.

Reported cases of application of the proposed modeling instrument for Territorial MHI Program downward cost adjustment include: (i) evaluation of cost-savings potential of shifting routine diagnostics from the inpatient setting to pre-admission stage in the rural areas of Kemerovo oblast; (ii) projection of cost impact from ALOS reduction for herniotomy cases.

3.3 Application of Kemerovo/Altai Approach

The best documented case of application of the model comes from Altai Krai and relates to the feasibility evaluation of the 1996 health care budget.

The health financing planners from Altai Krai transformed the Kemerovo/Altai basic model into two broadly defined scenarios: a baseline scenario and a cost-minimizing scenario. Both are supposed to undergo annual adjustments, allowing for changes in regulatory, socio-political, and economic conditions.

3.3.1 Baseline Scenario

The baseline, or cost-maximizing scenario seeks to keep user charges at the minimum, thus implying maximization of costs for public purchaser(s) of services. The following assumptions underlie this scenario:

- In the next year the territorial health care budget will be compensated for a financing gap, incurred in the baseline year by lower-than-obligated allocations to the health care sector.
- Utilization parameters, e.g., hospital admission rates and annual number of physician encounters, will remain unchanged.
- Referral patterns (in/outpatient mix) and provider productivity will remain unchanged.
- Baseline MHI benefit package will remain unchanged.
- The share of user charges in health financing also will remain unchanged.

Health policy leaders of Altai Krai consider this a no-change scenario. The health care sector reiterates its claim for better financing without any commitment on its part to higher efficiency. Structural imbalances and low returns on health care spending are pre-set in this scenario and, thus, perpetuated. Collaborating with Zdrav*Reform*, the Altai counterparts increasingly dismissed policy relevance of baseline-driven approach to allocation of resources. They maintain this type of scenario in their model simply as a frame of reference for alternative scenarios, the latter relying more on pro-active structural policies. Specifically, the baseline approach is instrumental in identifying financial gaps that would have to be filled by means of pro-efficiency change.

3.3.2 Cost-Minimizing Scenario

The cost-minimizing scenario actually is a set of micro-scenarios, to be evaluated from the standpoint of their ability to generate savings in the health care sector. The purpose is to identify and recommend as many and intensive efficiency changes as may be needed to offset the deficit. Since most of the micro-scenarios are highly correlated to one another, potentially important ones should be incorporated into modeling in parallel, rather than consecutively.

Micro-scenario 1. The first departure from the baseline layout reconsiders unit costs, mandated usually as unit norms of financing. Upward reassessment of full unit costs seems to be quite appropriate given the chronic underfinancing of the health care sector and the fact, that much of it is legitimized by inadequately low unit norms. At the same time, the users of the Altai Krai model agree that unit costs may and should be realigned in a *better resource mix*. This implies growth rate differentiation by kind of resource.

Importantly, a *better* resource mix should not be mistaken for an *optimal* resource mix, but rather as an interim compromise. An overall deficit can be distributed in two ways: First, it can be spread across cost categories proportionate to each category's share in total costs. Or, it can be spread disproportionately, according to a pre-defined ranking of each cost category by its priority in accessing scarce funding. A partial improvement in resource allocation may thus be achieved through preferential treatment of selected resource categories.

Altai Krai decided not to challenge the existing unit norms of financing. However, the approximation of actual to normative funding was differentiated as follows: direct labor costs (allocation Chapter 1 "Wages and Salaries" and 2 "Payroll Taxes") had to be funded at 100 percent, as the first priority. "Patient meals" in the hospitals had to be funded at the minimum of 80 percent; housekeeping expenses, including utilities, at 80 percent; medical equipment at 20 percent, linen and uniform at 5 percent.

This reallocation of resources, meets the budget neutrality requirement. Put differently, it does not affect the magnitude of the financial gap. It is worth mentioning at this point, that the deficit was estimated as the baseline budget adjusted for inflation and scaled against projected revenue. The deficit amounted to 6.86 percent of outlays. This is the amount to be generated by means of efficiency-driven rationalization of the health care sector.

Micro-scenario 2. Further deviations from the base line are adopted at this stage by assuming that:

- Up to 10 percent of admissions to the krai-level hospitals may be filtered by central (rural) rayon hospitals.

- Up to 7 percent of the previous number of inpatients will be referred to outpatient facilities, especially to day-care hospitals affiliated with polyclinics. This will reduce ALOS by shifting post-acute and rehabilitative care to the outpatient setting.[7]

- ALOS across all types of inpatient providers will be reduced by one day by shifting selected diagnostic tests and procedures to pre-admission settings.

Such changes in the delivery of services will have cost impact: Reallocation of inpatients from the krai level to the rayon level will result in 0.84 percent savings. Increased utilization of day-care hospitals will save another 0.32 percent. This will be a balance of a gain from reduced

[7] Number of days per average case, expected to be shifted outpatient, is not reported.

utilization of full-fledged hospital services and increased utilization of outpatient services.[8] And 4.48 percent of health care costs will be saved by enhancing pre-admission diagnostics. In total, the deficit declines dramatically, from 5.99 percent to 1.19 percent.

Micro-scenario 3. This provides a more accurate view of cost savings expected to result from the structural changes assumed under micro-scenario 2, because it allows for variation in unit costs by level of hospital care.[9]

"Practice-based evidence, available from the experience of most territories" [11: p.56] suggests that oblast, city, central rayon, and community rural hospitals compare in costs per patient discharge in proportion of 1/0.7/0.6/0.4. Once such differentiation is built into the model, cost savings from micro-scenario 2 change become: 0.99 percent, instead of 0.84 percent, from admitting more inpatients to central rayon hospitals; 0.31 percent, instead of 0.32 percent, from shifting inpatients to day hospitals; and 4.44 percent, instead of 4.48 percent, from strengthening pre-admission diagnostics.

In sum, the deficit declines to 1.09 percent of outlays if adjusted for unit cost differentiation by level of hospital care (as under micro-scenario 3) versus 1.19 percent if unadjusted for the said factor (as under micro-scenario 2).

Micro-scenario 4. Since previous rationalization steps could not remedy the entire deficit, leaders of the Altai Krai Health Administration considered reduction in admission rates from 25 to 20 cases per 100 population as an additional realistic adjustment in the inpatient health care sector. The proposed average will have to be modeled by case mix groups. No such work has been reported thus far.

Micro-scenario 5. Pay-as-you-go user charges are considered as a strategic reserve approach that might be used should need arise for additional cost cuts. The following policy options are recommended by the Health Administration for further consideration and modeling: (i) User charges are acceptable if levied on the income-earning populations only. Chronically ill would be exempt from payment. (ii) Alternatively, user charges may be limited to inpatient meals, hospital accommodations, and non-essential drugs and supplies at the amounts approved by the local government and consumer organizations. (iii) User payments might be differentiated, dependent on severity of disease and length of stay in a hospital.

Micro-scenario 6. Restrictions on the benefit package, now available free of charge. Like the previous scenario, this approach has not been tested in quantitative simulations. Little evidence exists at present as to how *up-stream* exclusions from the free benefit package may translate into *down-stream* cost-containment gains. There is no clear view of whether exclusions should be aligned by diseases, services, types of care, or types of facilities. Denying free access to health

[8] Inpatient-to-outpatient case cost ratio is neither reported, nor assumed.

[9] The author had to study micro-scenario 3 to realize that under micro-scenario 2, krai- and rayon-level hospitals were presumed to have equal costs per patient discharge. Micro-scenario 3 thus corrects the simplistic view of costs proposed under the previous scenario.

care benefits is considered a politically sensitive issue. The Altai Krai Territorial Administration considers this the least desirable approach.

The Kemerovo/Altai model has been run in an iterative mode. Outputs from each iteration have been clustered into three benchmark scenarios:

- *Scenario A:* Providers of services meet demand for care in full. The deficit gap in the health care budget amounts to 40 percent.

- *Scenario B*: Provision of services is selectively restricted resulting in a 7 percent deficit rate.

- *Scenario C*: Provision of services is severely restricted, enabling a balanced health care budget.

A set of recommendations relating to rationalization of health care networks, has been presented as an optimal combination of options from all scenarios. The basic recommended approaches are:

- A consistent shift of services and resources towards cost-efficient forms of delivery, in particular, by enhancing outpatient services in the existing clinical and organizational settings; strengthening primary care; creating new types of facilities, i.e., nursing homes, hospices, and day-care hospitals, to reduce admission to and length of stay in acute care hospitals.

- Reallocation of bed capacity among clinical specialties.

- Downsizing.

- Identification of services that can be excluded from the publicly funded benefit package and transferred to alternative sources of revenue.

No outcomes were reported from these recommendations for re-allocation of health care resources at the time Zdrav*Reform* completed its activities in Kemerovo Oblast and Altai Krai.

4.0 INNOVATIVE METHODS OF HOSPITAL REIMBURSEMENT

In Kemerovo Oblast, insurance carriers reimburse hospital services using a case mix rate schedule comprising 1,500 Clinical-Statistical Groups (CSGs). CSGs are grouped by ICD-9 principal diagnoses, several comorbidities, and surgical procedures.[10] CSG rates are established as a product of standard daily cost multiplied by a standard length of stay. The rates are differentiated by three hospital categories: teaching clinics, other city hospitals, and rural hospitals.

[10] A reported role of surgical procedures in clinical grouping is not clear. Plausibly, this parameter has not become part of a standard grouping methodology.

Presumably, hospitals are entitled to full CSG reimbursement (unless quality considerations induce a different decision, as will be explained shortly). If the LOS exceeds 50 percent of the CSG standard, the reimbursement rate will not be affected by LOS *per se* and hospitals are allowed to keep savings that result from such shorter-than-expected LOS.[11] Such an arrangement turns the CSG methodology into a truly performance-based approach to provider reimbursement—the incentives for the hospitals to treat their patients faster are obvious.

Additionally, however, the designers of the system quite legitimately anticipated that such a straightforward financial incentive could jeopardize quality of care by leading to premature discharges. The concept of CSGs therefore was refined with checks and balances of quality control. CSG rates have been implemented as asymptotic benchmarks, rather than guaranteed amounts of reimbursement, and actual payments may deviate significantly from what is determined by a scheduled amount once the chargeable rate is adjusted for the quality of care.

The quality variable is represented by a score in a range of zero to one. The score measures the degree of compliance of medical treatment with what is set forth in the clinical protocol for a given CSG. A clinical protocol is a list of procedures considered to be appropriate for a particular group of cases. International consultants usually conclude that such protocols are excessively prescriptive and reminiscent of widely criticized "cookbook" approach to the practice of medicine. Conversely, the architects of (MESs) in Kemerovo argue that MESs adequately emphasize clinical outcomes, not just clinical activities. In any case, failure of inpatient care providers to perform all procedures mandated by a MES may result in punitive under-reimbursement.

Hospital staff experts evaluate quality of care in-house by reviewing and signing discharge abstracts. The quality control staffs of insurance companies oversee facility-based monitoring, by conducting a 5-percent random discharge survey. Penalties are applied retrospectively and proportionately to: case-specific variances of quality from the MES; and incidence of poor quality in a clinical department of a particular hospital, relative to the oblast average rate in the same clinical specialty.

Reportedly, the self-evaluated outcome of MES-based case mix reimbursement is twofold: waiting periods for hospital admissions have declined markedly and quality of services has improved. Independent evaluations confirm multiple positive impact of incentive-based reimbursement. The shift from input- to output-based indicators triggered downsizing in the inpatient sector. Resources are consistently shifted into day-time facilities and other alternatives to costly full fledged hospitals. Quality control, albeit still of a punitive nature, covers around 8 percent of discharged cases, prompting tighter professional discipline and more customer-friendly behavior among providers. Purchasers of services, such as the Kuzbass Sickness Fund,

[11] None of the available reports presents information on the higher-than-average cost reimbursement in Kemerovo. Apparently, *slight* upward deviations are not subject to additional reimbursement. In the logic of incentive-based systems of reimbursement, risks of over-utilization must be at least in part absorbed by providers. The question remains, however, as to cases which lie out by a broad margin (presumably 50 percent and over). The outlying methodology is likely to exist in Kemerovo, yet is not known to the author of this case study. Stop-loss reinsurance was proposed for hospitals.

the oblast's largest contractor for Territorial MHI Fund and a hub for provider payment innovation, are engaged in overhauling cost-accounting practices at the hospitals. The purpose is to introduce a uniform methodology, enabling direct comparisons of hospitals by level of their costs. This will facilitate competitive contracting, which has already become common practice in Kemerovo, yet lacks methodological consistency.

Importantly, the Kemerovo experience with MESs served as a prototype to similar systems throughout Russia and other former Soviet countries. Developers of standards in other regions and countries challenged the Kemerovo trailblazers with more and more detailed listings of CSGs, each one backed up with prescriptive clinical protocol, standard LOS, and standard cost per patient day, deriving from mandated listings of procedures. The record was set at 10,000 to 12,000 MESs in neighboring Novosibirsk. To have a set of MES numbering in the many thousands became the matter of professional self-respect among MHI administrators and health care MIS specialists.

Working in other regions of the former Soviet Union, such as Tomsk Oblast in Russia, Issyk-kul Oblast in Kyrgyzstan, and Zhezkazgan Oblast in Kazakstan, Zdrav*Reform* health financing experts tried to reverse the trend towards unproductive fragmentation of the case mix in the context of rate setting and quality assurance work. Integrative thinking was encouraged and prevailed in the listed territories: case mix groups became fewer, yet more clinically consistent and easier to update. The monetary part of case mix payment schedules was supplemented with resource intensity relative value scale, as a tool of flexible recalibration of reimbursement schedules in line with changing clinical, utilization, organizational, and financial patterns in the hospital sector. Clinical protocols were given up altogether. This had two positive implications: (i) Case mix rates became associated with the actual utilization and costs, as opposed to idealized lists of must-be-performed procedures. (ii) Quality control can be now driven by clinical practice guidelines that define appropriateness of care in broader and easier to monitor terms, e.g. admission and discharge criteria.

Meanwhile, Kemerovo Oblast continues to operate with thousands of MESs.

5.0 REIMBURSEMENT OF OUTPATIENT PROVIDERS

Development and testing of the new methods of payment for ambulatory health services was stimulated in Kemerovo by the following objectives: (i) establish preventive and primary care as a health policy priority; (ii) increase the volume and quality of outpatient services in order to reduce overall health care costs; (iii) strengthen primary care facilities as a sustainable driving force of cost containment; and (iv) turn primary care into the pivot of self-regulatory mechanisms and consumer choice in the health care sector.

All these objectives imply that outpatient care must be moved to incentive-based methods of reimbursement.

Fee-for-service methods have been rejected for the following reasons: (i) they are cost-explosive and make health care costs unpredictable; (ii) excessive utilization of services is inherent in such methods; (iii) providers are not interested in improving their patients' health; (iv) primary doctors are not motivated for care coordination with providers of specialty outpatient and inpatient services; and (v) the volume of billing and payment information and paperwork outgrows data processing capabilities of medical facilities and insurance companies alike.

5.1 Experiments of the 1980s

Kemerovo's experience consistently suggests that the optimal method of payment for outpatient care should be sought in the area of fund holding and prospectively paid capitation rates. In the late 1980s Kemerovo, along with Samara (formerly Kuibyshev) and St. Petersburg (formerly Leningrad), was designated by the Soviet Health Ministry to pilot-test the so-called New Economic Mechanism. It was expected to promote economic incentives for providers of services in order to make the health care sector more cost-efficient and concerned with the patients' health. It failed for a number of reasons:

(1) Basic regulatory adjustments have not been made to make the institutional environment less hostile to incentives and competitive practices. In particular, not even rudimentary autonomy was granted to health care facilities, thus precluding their self-management according to new incentives.

BOX 2. HEALTH FINANCING AND PROVIDER REIMBURSEMENT IN KEMEROVO

There is a dual system of health financing in Kemerovo: 30 percent of funding is raised by means of mandatory health insurance (MHI), another 70 percent from general revenue of the budget. Such duality is because oblast health administrations, including in Kemerovo, refused *de facto* to pool funding at the Territorial MHI Funds. This in turn is a consequence of many inconsistencies and ambiguities in the Federal MHI Law.

Who are the winners and the losers in the Territorial MHI Fund/Health Administration rivalry over financial powers? In Kemerovo, it is the Health Administration which has prevailed, and the entire population who has lost. The reason for such a conclusion is as follows. The MHI system is struggling to restructure provision of services to make them more consumer-oriented, conducive to economic incentives, and open to competition based on quality of care. However, the quantitative scale on which it is testing self-regulatory mechanisms of effectiveness and efficiency, is very limited: 30 percent of funding in an overall poor health care sector is not enough leverage to change the system. And in any event, the MHI's subtle attempts are wiped away by the Health Administration's reckless policy of providing funding regardless of performance, simply to maintain the entire network of health care facilities.

Does such a situation leave any hope for provider reimbursement innovation? Well, attempts to break away from the old still exist. Polyclinics are financed on a partially capitated basis, with all the ambulatory services built in. Hospitals are reimbursed per patient discharge. The rate schedule is structured by Clinical Statistical Groups (CSGs), used as a carrier for Medical Economic Standards. Says Lyudmila Isakova of the Siberian Foundation for the Development of Social Services and Insurance Management: *The truth of the matter is that our CSGs are quite different from what Americans had in mind* [case mix groups – A.T.]. *Grouping has been done, based on a heuristic approach. We wound up with too many groups, yet the doctors constantly pressure us to further increase their number, so this seems to be an endless process...You are asking about general evaluation of our reimbursement policy. Well, it is inadequate, I think, since it gives unilateral advantages to the inpatient sector. Hospitals are motivated to treat more and more patients and consume more and more resources, while the primary sector stands by, indifferent. Nothing has changed in that sense...What should be the way out? To strengthen fund holding, anchoring it in the primary sector, and/or implement global budgeting in combination with risk pools, as has been proposed in the United States.*

To make the picture comprehensive, it should be added that health services, classified into the category of *socially relevant* ones, e.g., TB and psychiatric care, are funded on a prior cost basis; using such apportionment criteria as hospital bed, patient day, physician encounter, or full-time equivalent staff. These types of care are provided by stand alone long-term care facilities, and funded from general revenue of the budget, regardless of provider performance.

Finally, since current level of funding is less than 50 percent of the pre-crisis level, health care facilities increasingly provide for themselves by means of user fees, direct contracts with employers, commercial insurance, community fundraising. None of these channels of funding is properly regulated.

(2) Inadequate and inflexible unit norms of funding, and complete a ban on internal reallocation of resources across cost categories, remained in place.

(3) Greater economic rights and responsibilities were placed with polyclinics. They became full fund holders and, as such, in charge of paying referral outpatient and inpatient providers for their services. *Territorial Medical Amalgamations*—a network formed by a fund holding polyclinic and referral providers—became an organizational shell for full fund holding. However, the system, did not work out because of the previously listed and following reasons:

(a) In the absence of strong competition, polyclinics remained relatively uninterested in new economic incentives. Competition among providers was not facilitated by the purchasing authority (first the Oblast Health Administration and later the Territorial MHI Fund), which neither arranged competitive contracting nor expressed political will for downsizing, personnel lay-offs, and other competition-driven action, which was fraught with social conflict and criticism of the government.

(b) Polyclinics are too large and heterogeneous to be able to develop a common economic motivation, even if they are interested in doing so. The management usually has neither the authority nor will to mobilize professional behavior of the facility as a whole according to consistent health protection, clinical practice, and financial goals and guidelines. Two kinds of internal dichotomies keep polyclinics split and under-responsive to incentives: (i) specialists usually are at odds with GPs, who would like to shift care towards their own offices and claim a correspondingly higher share of capitated funding; (ii) skillful and highly motivated primary physicians are in a minority in a polyclinic, and are viewed by their less motivated colleagues as a threat to their own existence.

(c) Polyclinics that managed to benefit financially from their fund holding status did so at the expense of their patients' health. Incidence of disability due to delayed hospital referrals was frequently reported in the experimental areas as a negative side-effect of fund holding. Polyclinic-based doctors, unwilling to pay high hospital costs out of capitated budget, were reluctance to refer patients even though their professional and organizational skills were insufficient for providing hospital-substituting services.

(d) Patients had only limited opportunity to exercise choice: They could shift among polyclinic-based GPs but could not opt for another polyclinic primarily because of long commutes. Local monopoly effects due to polyclinics' over-extended catchment areas hampered competition.

5.2 Models Currently under Testing

In the mid-1990s, the health care sector of Kemerovo Oblast decided to start afresh, addressing the issues of primary care and sector-wide effectiveness and efficiency by means of a comprehensive and resolute restructuring of both financing and delivery of services. By that time, the Zdrav*Reform* Program was deployed in the region and ready to help. Technical activities focused on the following directions:

1. Upgrading methods of payment to general care polyclinics:

    - calculation of risk-adjusted capitation rates as the main tool of paying polyclinics for providing care to comprehensively enrolled populations;
    - creation of incentives for polyclinics to reduce utilization of hospital services;
    - development of MIS-based techniques to improve internal management at polyclinics; and
    - large-scale implementation of fee-for-service methods of payment for preventive services.

2. Developing hospital-substituting facilities, such as day surgery centers, day-time hospitals, and outreach care:

    - Development of costing techniques and fee schedules for these innovative types of care.

3. Transfer of dental care to resource-based relative value scale reimbursement.

The following outcomes were expected from pilot-testing of listed innovations in the polyclinics in Kemerovo City:

- reduce hospital costs in the MHI budget by 20 percent;
- improve consumer satisfaction in the outpatient sector;
- increase quality of services and overall clinical outcomes at the polyclinics up to 98 percent, as measured by a Quality Adjustment Factor (QAF);
- create competition among dental polyclinics; and
- upgrade general status of outpatient care providers in the health care sector.

A variety of techniques is being tested in order to achieve listed outcomes. They are described below.

5.2.1 Partial Fund Holding with Elements of Fee-for-Service

This approach was found beneficial in contracting with polyclinics which are not ready for assuming the broad financial responsibilities and risks associated with full fund holding. The

main weakness of partial fund holding is the lack of motivation on the part of polyclinics for reducing utilization of hospital services. The following improvements have been introduced to counter this drawback:

1) Fifteen percent of the planned amount of *inpatient* care financing is allocated to the polyclinic, the convention being that these monies would be paid by the polyclinic to referral hospitals, if they must reimbursed the hospital for physician services. This "physician bill" is based on procedure costs adjusted for case severity. Proponents of this approach explain that severity-adjusted payments by polyclinics for the physician component of inpatient care will discourage outpatient doctors from referring simple cases to hospitals [5: 17]. Apparently, the fund holding polyclinic will be able to pay its own doctors from the inpatient budget, if in-house physician services allowed to avoid hospital admission. Simple cases are the easiest to treat outpatient, and may be viewed as the closest target to focus on.

2) As the next step in the demonstration, fund holding polyclinics will receive one more part of the inpatient budget, i.e., funds for selected inpatient diagnostics. The incentive will be the same: The polyclinic will pay itself at the hospital rate for whatever tests they perform. If they contract out diagnostic services to another outpatient facility, the polyclinic will keep the difference between what it might have paid for the tests if performed in a hospital, and what it actually paid to a [less costly] outpatient diagnostic center.

3) The right of referral to a hospital is restricted to the primary care physician. He or she must be promptly informed of any emergency admission or self-referral. [There is no indication, however, whether such admissions must be endorsed *ex ante* or *ex post.*] The primary care physician is allowed to monitor inpatient care, participate in the discharge planning process, and consult the insurer as to the appropriateness of an extended length of stay. While planning the discharge, the physician identifies a clinically appropriate strategy of post-acute and/or rehabilitative care, and evaluates the availability of required services in an outpatient setting.

4) The primary care physician monitors quality and sets a QAF in a range of 0 to 100 percent. The applicable case mix rate will be multiplied by the QAF to obtain the amount of reimbursement, due to the hospital for this particular case.

5) The primary care physician performs fund holding functions within the polyclinic, paying for the services of polyclinic-based specialists, paraclinical departments, day-care hospital, outreach care, and others.

6) The primary care physician reimburses for tests and consultations contracted out to other outpatient facilities.

7) Technically, payments to all polyclinic's subcontractors are made by the insurance company. Detailed information is provided to fund holding general practitioners and the polyclinic about every transaction made on their behalf.

8) The insurer provides the fund holder with additional funds that form the polyclinic's *prevention reserve*. This money is expected to be spent by primary care physicians on urgent and emergency care. At the end of the year, the unspent balance accrues to the bonus pool of the fund holder.

9) Performance of fund holding GPs is monitored and evaluated for compliance with MES-based criteria.

10) The ancillary staff of a fund holding polyclinic is rewarded with bonuses, depending on the overall performance of the polyclinic. This takes into account such factors as the amount of care shifted to the outpatient setting.

11) Preventive and hospital-substituting services are paid for according to MES rates, per completed case. Likewise, the MES rate schedule is applied to reimbursement of outpatient services provided by other facilities.

5.2.2 Full Fund Holding

Full fund holding is considered a hard-to-manage approach. The main points of concern are that: (i) financial risks are excessively shifted onto polyclinics, threatening disruption in access to care; (ii) actuarial evidence is insufficient to make utilization predictable enough and keep the fund holder's risks in check; and (iii) data collection and processing capabilities are inadequate to keep track of referrals, payments, and services provided.

Nevertheless, full fund holding will continue as an option for experimental testing. The fund holding polyclinic is conceived as an anchor facility for a managed care plan. In U.S. managed care terms, it may be defined as a staff HMO without a financial component. Non-captive HMO contracts provide for funding from insurance companies. The fund holding polyclinic enters into contractual relationships with referral providers. The capitation rate multiplied by membership produces the fund holder's budget. Items 3-11 from Section 5.2.1 (Partial Fund Holding) apply to full fund holding as well.

5.3 Capitation Rates for Fund Holding Polyclinics

The following description illustrates basic techniques of rate calculation and fund allocation in managed care settings, designed and currently being tested in Kemerovo Oblast. Both partial and full fund holding are considered. As the first step, total health care costs are separated into inpatient and outpatient services, according to a baseline split in health financing and the territorial MHI benefit package as defined for the future period. Let us assume that 60 percent of allocations to personal health services covers inpatient care, while the remaining 40 percent goes to outpatient care. The fund holding polyclinic will get 36 percent of the capitated amount of funding. Another 4 percent, intended for dental care, will remain on the payor's account. From here on, the algorithms for full and partial fund holding diverge.

5.3.1 Full Fund Holding

Under the full fund holding, the bulk of the inpatient capitated budget is prospectively allocated to the fund holder. A certain part of the inpatient money pool is retained by the payor for excessive cost reinsurance of the fund holding polyclinic. Let us define "excessive cost" as exceeding 200 percent of the average. An empirically constructed curve, featuring the 1994 distribution of 180,000 inpatient cases by cost, suggests that 10 percent of cases incur costs, exceeding the average by a factor of two or more. Hence, no less than 80 percent of planned inpatient budget will be allocated to the fund holders, while up to 20 percent will be kept for reinsurance of excessive costs.[12]

In summary, the fund holding polyclinic will get: 36% + 0.9 * 60% = 90% of the baseline capitation rate. Another 4 percent and 6 percent will be kept by the payor for dental care, and reinsurance reserve.

5.3.2 Partial Fund Holding

Fund holding polyclinics will still get a part of the inpatient budget, to make them feel the financial impact of excessive utilization of hospital services, or enjoy the savings from shifting care to the outpatient setting.

Polyclinics will be prospectively paid the share of inpatient costs, reflecting hospital spending on physician wages and salaries.[13] A realistic assessment of such a share, by Kemerovo standards, is 15 percent. In total, the polyclinics will get the following part of the total capitation rate: 36% + 0.15*60 = 44%.

5.4 Alternative Methods of Splitting Hospital Bill

So far the discussion has focused on *proportionate* contribution by a partially fund holding polyclinic for inpatient care financing. Each case is paid for from two sources: a prime purchaser, such as the Health Administration, or an insurance company, and a fund holding polyclinic. The latter takes responsibility for the part of the bill proportionate to a prospectively received share of the inpatient care budget. From the previous examples, it is 90 percent for the full fund holder and 15 percent for the partial fund holder.

---

[12] The exact shares will depend on how much of the outlier case costs are ceded to reinsurer. There is no documented evidence of reinsurance practices in Kemerovo that could shed more light on this issue.

[13] This way, hospitals are safeguarded from under-reimbursement for most of the fixed costs, those associated with Chapter 3, "Housekeeping and Related." Such an arrangement attenuates the structural impact of fund holding: even if care is shifted to outpatient completely, hospitals will still get their Chapter 3 funding directly from the Health Administration or an insurance company. Implicitly, this impedes downsizing and elimination of redundant facilities.

In Kemerovo the *proportionate method* is applied uniformly: the share co-paid by the polyclinic is the same for all case mix groups. The advantage of this approach is that it keeps the billing simple. It also sets an incentive for the fund holder to avoid inappropriate admissions. If the polyclinic provides the (outpatient) care, which usually is lower cost, the polyclinic retains the savings.

However, this method has its weaknesses, which originate from the same source as its strengths. If most of the hospital costs are paid by the prime purchaser anyway, which is the case under partial fund holding, the opportunity costs of referring a patient to a hospital are not very big for the polyclinic. This holds particularly true with relatively simple and, therefore, inexpensive cases. The polyclinic will not gain or lose much, no matter the setting in which a simple case is treated. The proportionate method, therefore, develops a *laissez-faire* attitude towards one of the most important objectives of fund holding.

Moreover, under certain circumstances this method can set a wrong incentive. Consider a case, which costs RUR 200,000 if treated in an inpatient setting and RUR 150,000 if treated in an outpatient setting. Let us assume that the co-payment rate for a polyclinic is 50 percent. If the polyclinic chooses to treat the case itself, it will spend RUR 150,000, as opposed to the RUR 100,000 it will pay to a hospital. The financial interest of the polyclinic thus dictates its preference for inpatient treatment.

An alternative method currently under experimental testing in Kemerovo is called *stop-loss co-payment*. A uniform per-case cap is imposed on payments by fund holding polyclinics to referral hospitals. This cap is considered by the prime payor as a deductible from its own payments to the hospitals. The size of the cap may be geared to the mean costs. Given that cost distribution curve in Kemerovo is skewed considerably to the right, the mean-based cap may accommodate three-fourths of all hospital costs. By shifting the cap up- or downward, the cost-containment incentives for the fund holding polyclinic will increase or reduce. The higher the cap, the more the fund holder gains from shifting care outpatient, including complex cases. Conversely, if the cap is set at a very low level, the fund holder loses interest in avoiding hospitalization of even simple cases.[14]

The application of the stop-loss method requires continuous and large-scale monitoring of costs in the hospital sector, sophisticated actuarial analyses, and established data bases maintained by experienced MIS specialists. In Kemerovo, testing of such an approach became possible only after 10 years of effort collecting and processing data on utilization and costs of health care services.

[14] Both prime payor and fund holding polyclinics co-pay for hospital services by case-mix rates.

6.0 FUTURE REFORMS: PRIORITIES AND CONCEPTS AS SEEN FROM KEMEROVO

The presence of the Zdrav*Reform* Program in Kemerovo was active, yet brief. A year and a half of work, predominantly by means of short-term consulting, could enable at best a tangential involvement with the health care system that has been impetuously developing for over a decade, drawing from both domestic and international intellectual resources. Zdrav*Reform* has made two main contributions to health financing reforms in Kemerovo:

1. Kemerovo's frame of reference was expanded through further exposure to international health policy agendas and best practices in health system design, financing, and management. Accomplishments and failures, strengths and inconsistencies have been positioned on a global map of precedents and prototypes. As a result, the Kemerovo counterparts have developed a more deterministic view of their own reforms in retrospective and prospective. More options are now available for them to consider, and random choices are less likely.

2. Zdrav*Reform'*s own best practices in Kemerovo have resulted in several reports and manuals, that review the domestic state of the art, inseminate it with international experience, and translate it into methodological guidelines for the future.

Below are consensus-based Kemerovo/Zdrav*Reform* proposals [4; 7; 9; 10], that may set directions and pace for subsequent stages of health financing reforms in Kemerovo. The proposed approaches address the main goals of the local reform agenda, such as improving effectiveness and efficiency in the health care sector through better coordination of services and stronger provider incentives. Importantly, these proposals are consistent in advocating a multi-faceted approach to health financing innovation. They promote alignment among provider payment methods, on the one hand; and resource generation mechanisms, legal framework, clinical strategies, and management information on the other. Better interconnection of these listed aspects could significantly enhance the value of the instruments and techniques, already mastered by the Kemerovo innovators yet not integrated into a coherent single mechanism.

6.1 Strengthening Coordination among the Stakeholders

Further reforms in the health care sector of Kemerovo Oblast should focus on improving coordination of ambulatory care providers with inpatient facilities, and with payors. Interrelated strategies should be developed to encourage every stakeholder to use resources more efficiently and facilitate their redistribution in a cost-minimizing way. The following views and approaches should be reinstated as part of, or added to the reform agenda to enable further desirable evolution of the system:

1. A more in-depth view should be developed of how goals of ambulatory care providers mesh with the goals of hospital providers; which of those goals derive from clinical strategies, which ones originate from financial mechanisms and incentives, and which from the two sources of motivation.

2. Conceptual and empirical knowledge should be expanded, to shed more light on the following issue: To what extent can competition for limited resources, on the one hand, and professional commitment to quality of services, on the other, facilitate or impede coordination of clinical work between outpatient and inpatient care providers?

3. An important objective of the new payment systems—to help shift health care resources from hospital to ambulatory care—thus far has not been translated into quantifiable targets. More systematic assessment should be conducted in each layer of the health care delivery system to identify hospital admissions and numbers of days that could be treated in an ambulatory setting. The findings should be arranged into a comprehensive report, outlining the following: (i) the magnitude of structural adjustment, associated with shifting care to outpatient; (ii) its intensity over time, i.e., schedule with interim targets by clinical specialty, smaller geographic area, facility; (iii) its implications for utilization, costs, and accessibility of care; and (iv) infrastructure requirements and the potential impact on ambulatory and hospital facilities, and their staff.

4. Polyclinic- and hospital-based specialists should contribute more actively to shifting services to the outpatient setting. Hospital staff physicians currently have no incentives to diagnose and treat patients outside the hospital. Conversely, their motivation for hospital admissions has increased under case mix reimbursement per patient discharge. Polyclinic-physicians are allowed to monitor inpatient treatment and participate in discharge planning. However, they have not been granted full-fledged hospital privileges. Rules and procedures of physician accreditation by the hospitals should be developed, as a matter of priority. Once outpatient doctors get access to higher technologies at the hospitals, they will be able to upgrade their skills to the extent that would allow them to assume greater medical responsibilities in the outpatient settings.

5. Fund holding polyclinics get part of the inpatient budget. It is paid to them prospectively with the further option either to co-pay for each case referred to a hospital, or to substitute hospital admission with an outpatient treatment and pay its own specialists. The evidence should be studied on whether polyclinics are willing to take on additional responsibilities, and how exactly co-payment arrangement must be structured to elicit interest in hospital-substituting services. The Kemerovo innovators have already recognized that polyclinic co-payment is a potentially viable but ambiguous tool, able to produce even the opposite effect. It would stand to logic to enhance experimental trials with various fine-tuning mechanisms until they determine a point of optimality for each category of services that will (i) set the right incentive (encourage outpatient treatment), and (ii) make it strong enough to actually shift services to outpatient. Another search should focus on methods of payment to polyclinic- and hospital-based doctors that encourage treatment outside the hospital.

BOX 3. PROVIDER AUTONOMY IN KEMEROVO

Most health care facilities became municipal property in the 1990s and, nominally, became immune to centralized command and control. Conversion of authorized into actual autonomy is underway yet far from complete. The federal and oblast health bureaucracies remain in place, even though streamlined. Not surprisingly, they seek to retain their regulatory and financial authority by micro-managing providers of services. Thus, while community ownership status implies a high degree of provider self-governance, the bureaucratic administrative vertical, although in part disabled, still seeks to impose its will. Degrees of autonomy vary greatly depending on the management style of a particular administrator or the bargaining power of an individual facility.

What benefits and limitations have deregulation reforms brought to providers so far? In Kemerovo, health care facilities are free to determine their staffing schedules and how recurrent budgets should be allocated by cost category. Fixed assets are under providers' operating control, and may be dedicated/switched to particular uses at their discretion. Nevertheless, property cannot be sold without prior consent of the Public Asset Management Administration of the oblast government.

Since the early 1990s, health care facilities enjoy broad autonomy in deciding salaries. Officially, full-time equivalent rates are still established by the national schedule that classifies all occupations into over 20 tiers. Those rates determine a *core part* of the wage. At present, however, it is the variable part that makes the paycheck. Says Lyudmila Isakova: *An FTE rate is nothing but a benchmark. The actual salary is determined by a broad variety of performance bonuses and salary adjustment ratios. As far as labor remuneration is concerned, our providers have more autonomy these days than self-governing hospital trusts in the U.K.*

Provider deregulation has been reinforced lately by federal legislative reforms. In December 1995 a federal law on not-for-profits was adopted in Russia. In 1996 a new Civil Code took effect. As set forth by both acts, providers of social services are eligible for the status of a *non-profit institution, incorporated by its owner for the purpose of meeting social, cultural, and other similar needs.* Most health care providers in Kemerovo assumed that status. Importantly, it allows them to *carry out commercial activities, concurrent with their mission*.

A challenging yet unavoidable question would be whether broadening autonomy is good or bad for the health care system. Long-term effects are, clearly, positive, since provider autonomy is key to setting up a more competitive environment in the health care sector. Short term, however, transition is disruptive. Old-style health bureaucracies create a dual impediment: they are no longer able to regulate the health care system in a consistent way, be it a central planning or a managed market style. Yet they are still strong enough to interfere with a newly emerging self-regulatory environment. With no institutional coherence, provider autonomy, according to Roman Zelkovich, *plunges the system into chaos. There are no plans, no accountability. Access to and utilization of resources are not regulated, which leads to low cost-efficiency and, often times, to corruption. Just very initial steps are being made (inspired in part, perhaps, by the ZdravReform Program) to create mechanisms of resource management. However, drastic deterioration of financing is likely to dissipate positive outcomes, even before they materialize*.

6.The MES-based prospective payment system should be evaluated to ensure that it provides strong incentives for increased hospital efficiency, such as shorter lengths of stay. Hospital incentives for reduced admissions must be also built into the payment system, to offset currently existing counter-incentives.

7.Shifting inpatients to ambulatory treatment settings will lower revenue to hospitals without necessarily reducing their costs. Hospital managers will have to learn how to trim excessive

fixed costs in order to avoid under-reimbursement. To do so, they will have to borrow a variety of tools from business management practice and adapt them to the hospital sector: downsizing facilities, closing buildings, and transferring hospitals to alternative sources of revenue, including non-medical; avoiding sunk costs by outsourcing certain services, firing redundant staff, and developing sliding work schedules for remaining mid-level and ancillary personnel, making it available for whatever department has need; winning high volume contracts by offering reasonable discounts; and, constantly shifting the service mix in order to offset loss-making with revenue-earning services. It is important that they list all the obstacles to hospital rationalization; and classify them into regulatory or psychological ones, or those explained by lack of leadership or competence. They must exert a consistent effort on eliminating identified impediments by means of legal action, media campaigning, management training, and practical demonstration of modern techniques of financial and personnel management.

8. The structural and programmatic relationship between hospitals and ambulatory care providers is pivotal to finding a workable solution to the problems of effective and efficient provision of care. At present, many polyclinics operate under administrative and financial regulations and payment incentives that are unrelated to those of the hospitals to which they refer patients. To ensure that ambulatory care providers and hospitals are working towards the same goals, inpatient care and ambulatory services may need to be provided by the same organizational and financial entity. Achieving this goal will require increased integration of inpatient and ambulatory health service delivery.

9. Kemerovo Oblast has worked consistently to implement provider reimbursement mechanisms, whereby funds are allocated through polyclinics by means of a capitation formula. Nevertheless, there is still a number of problems yet to be overcome in the design and application of an ambulatory payment system:

9.1 Capitated ambulatory providers currently have few incentives or available resources to maintain a full range of expensive diagnostic services on their premises. It may be necessary to define a plan for sharing these resources among polyclinics or between hospitals and polyclinics. Hospitals, in particular, will need to play an active role in strengthening the technical capabilities of the ambulatory care system. Sharing the hospital clinical base, including equipment and human resources, may be a solution, as long as it does not lead to full-blown hospital admissions. If it is accepted that ambulatory patients may receive care within a completed episode from several providers, MES categories for completed cases should be able to include more than one provider in payment for the completed case.

9.2 The criteria of case grouping for ambulatory MES categories may be adjusted for inconsistencies in medical practice. According to the Kemerovo Institute of Social and Economic Problems in Health Care, many ambulatory patients are treated without receiving a diagnosis. This indicates that ambulatory MES categories may require an alternative basis for identifying and grouping completed cases.

10. If levels of capitation payments to primary care providers remain as low as they have been in recent years, risk-avoidance as a trait of polyclinics' economic behavior will take over risk

acceptance. The returns on bearing the risks of fund holding will become too low to justify the risks. Indeed, with too little cash flow anyway, there may be not enough funding to seek savings. In order not to discredit the idea of fund holding, its implementation should be managed at a pace commensurate with the economic recovery of the health care sector, at least to its pre-crisis status.

11. Insurance companies have an important role to play in improving the capabilities and performance of ambulatory services and in restructuring hospital and ambulatory services. These organizations should be fully involved in developing and testing strategies to achieve the needed structural, resource allocation, and quality improvements in ambulatory care and in providing incentives for improvements in the overall efficiency of hospital care.

11.1 Being financially motivated to reduce unnecessary admissions and lengths of stay, insurance companies should develop utilization review criteria and payment policies which encourage medical treatment in the most appropriate setting. These criteria can be effective in motivating providers to shift patients from inpatient to outpatient settings.

11.2 Insurance companies seem to lack procedures for identifying and reimbursing cases that could be shifted from a hospital to an ambulatory setting. For this reason, insurance companies should maintain their interest in the design of ambulatory MES criteria that may be proposed for payment and quality management. These organizations should be fully involved in developing and testing MES categories.

12. It is important to maintain the central role of adequate data and information systems in designing and testing new ambulatory payment methods and in evaluating the effects of these policies over time. Kemerovo reform leaders, traditionally conducive to the MIS aspects of health care reform, should develop a more selective approach to information generation, reporting, and processing. Each field in the data base should be useful for a particular purpose of health care management and financing. The following observations may help in further MIS-related work:

12.1 Incentives built into the fund holding systems will be accessible to providers of services only if they know how to measure, monitor, analyze, and manage their costs. Information systems, supportive as they have been for regulatory, research, and health insurance institutions in Kemerovo, largely continue to ignore the management information needs of providers of care. The MIS effort should be spread more evenly and targeted at medical facilities.

12.2 The current MES categories are still based on diagnoses alone, with a few experimental exceptions. Surgical procedures have not received adequate attention as a clinical parameter and cost determinant of a case. In future revisions of the MES categories, and in the development of ambulatory MES categories, the designers of rate schedules should consider the potential role of surgical procedures in the structure and performance of the MES classification system.

6.2 Integrated Health Systems

The proposals in the preceding section are intended to consolidate what has been already accomplished in the area of health financing reforms in Kemerovo. Their purpose is to integrate generally successful pieces of innovation into one coherent mechanism, to maximize the output from many years of work by eliminating obvious inconsistencies, and to make appropriate refinements, tune-ups, and extensions.

While improving existing mechanisms, Kemerovo experts also should try to look further ahead and think of possible directions for the next "strategic break-through." Such directions should grow out of prior reform experience, yet indicate a significant step in long-term evolution of the regional health care system.

Their central approach is the development of integrated systems of health care financing and delivery or, more concisely, Integrated Health Systems (IHS). They will build on prior experience with design and implementation of polyclinic-based fund holding, payor and provider contracts, incentive-based methods of hospital reimbursement, and outcome-oriented quality assurance. Their goal is to proceed from intensified professional and financial interactions among independent payors and providers of services to a nearly full integration of these entities' economic incentives, clinical and business strategies, and, hence, resource base.

Most of the work relating to design, pilot-testing, and evaluation of IHSs is still ahead. However, Zdrav*Reform* and its Kemerovo colleagues have developed a consensus on the concept of the system and the basics of its organization and operations. They have written a manual which provides guidelines for future developers of IHSs. Tissul Rayon, with a population of 32,000, was identified as the first experimental site to test the IHS model. Following sections describe the model and implications that the transition to IHSs may have for the entire health policy and insurance in Kemerovo Oblast and Russia.

6.2.1 Basic Features and Implications of the Proposed IHS Experiment

The proposed IHS model is based on the approach that goes significantly beyond previously tested schemes of fund holding. In the model, funding is allocated not to individual polyclinics and hospitals but to the entire network of health care facilities that operates under the MHI program in an area served by a particular insurance organization. The IHS will be financed as a whole, based on an integrated capitation rate.

It is expected that such arrangement will make the entire continuum of providers equally motivated for improving quality and efficiency of services.[15] Facilities of every type—a polyclinic, a hospital, a diagnostic center, a pharmacy, etc.—become concerned with how to ensure prudent utilization of care network-wide. Gross revenue of any IHS-participating provider is determined by its share in a prospectively allocated IHS budget and its contribution to the IHS overall savings, achieved through improvements in efficiency.

[15] Under the proposed capitated model, most of the responsibility for managing specific health care treatment rests with providers and less with patients whose primary role is to make an annual choice of IHS.

At the beginning of each fiscal year, an IHS would receive a budget, established as a per capita rate, multiplied by the number of IHS subscribers (also called members or enrollees). The capitated budget must meet the following two criteria: (i) match the defined benefit package and comply with general constraints in the territorial health care budget; and (ii) be negotiated with and accepted by the payor who serves the local community and provides funding to a given IHS.

A pivotal principle of capitation rate setting is integration of all interrelated services. Of particular importance are covered services, whose volume may vary significantly depending on how the continuum of care is coordinated among providers. The more services that capitation includes, the more opportunities it creates for cost-minimizing substitution.

Emergency care is a good example. Once it is included in the capitation rate, both outpatient and inpatient facilities become actively interested in the emergency care component of service delivery. Primary care physicians seek to reduce the number of emergency calls by preempting acute conditions and tutoring patients who are at risk in crisis management techniques. In this way the patients will avoid seeking emergency care and the physicians spend less out of their portion of the IHS prospectively-paid capitated budget. The savings accrue to the IHS savings pool. Part of the savings will be returned in bonuses to primary doctors, who contributed to the IHS-wide efficiency gains through lower utilization of costly emergency services. For their part, hospitals coordinate with the ambulances and emergency units to ensure that emergency care, when needed, is provided in an optimal way. Emergency service may influence dramatically the costs of follow-up hospital care: The severity of an emergency case may be exacerbated or reduced prior to admission depending on how well or badly the emergency care is rendered. To this end, hospitals would rather invest in upgrading the skills of ambulance crews than deal with the medical and financial consequences of a crew's ineffectiveness. As this example illustrates, case mix reimbursement, part of the IHS arrangement, motivates hospitals to keep their costs in check; part of the financial strategy is to minimize negative externalities, such as those created by inadequate emergency care.

Another example is that when an IHS sets up a pharmacy of its own or invites an existing pharmacy to become a participating provider, significant changes occurs in drug procurement and utilization. The purchasing of pharmaceuticals becomes better coordinated, thus reducing the IHA drug bill. In some cases, the plan may decide to increase spending of its capitated budget on selected drugs, if this enables transfer of some inpatients to outpatient care and medication, and the savings from reduced admissions exceeds the additional drug costs.

Importantly, an *all-inclusive* capitation will improve coordination of care between IHS and non-network providers. To that end, the IHS should be given a mandate to buy care from the outsiders and the responsibility to pay for it out of its capitated budget. Currently, rural community and central rayon hospitals do not hesitate to refer low intensity cases to sophisticated tertiary care facilities, such as oblast teaching hospitals. Relatively high costs of the more sophisticated care is reimbursed from the oblast budget. Because reimbursement comes on a completed case basis, the hospitals themselves do not mind admitting more patients, regardless of clinical inappropriateness of many such admissions. Once the referring IHS has to bear

additional costs of treating their patients on an inappropriately expensive level, such moral hazard in the behavior of both referring and receiving facilities will be discouraged.

The discussion above relates to capitation that is integrated both horizontally and vertically. *Horizontally* means that the entire range of interrelated services included in the publicly financed benefit package will be funded from prospectively paid capitated budget. *Vertically* means that capitated IHS will pay both participating and non-network providers of all organizational levels, for care given to the IHS members.

Along with *general* care IHSs, *specialized* capitated plans may be configured as well. In this specialized capacity, common financial incentives and responsibilities link providers of services relating to a particular clinical specialty, group of diseases, or cohort of the population. The same integration principle as the one discussed above drives the design, operation, and reimbursement of such plans: the capitated budget must cover prevention, diagnostic, and curative care, on the one hand; and facilities of different organizational status, on the other. Integration encourages closer coordination of inpatient and outpatient doctors and health personnel. Obstetrics provides a good example of the rationale for creating specialty IHSs. The Ob/Gyn clinic, pediatric polyclinic and obstetric hospital (or hospital department) will coordinate their work in order to reduce the probability of adverse outcomes at various stages of pregnancy, delivery, and post-partum and neonatal care. All stages of care will be paid as a whole, based on prospective capitation. This creates incentives for truly continuous care, oriented towards the final outcome. Conversely, if the obstetric hospital receives DRG-based reimbursement as a separate entity, it will remain uninterested in reducing delivery-complications rate.

Kemerovo reform leaders largely agree that a per capita financed IHS should not be controlled administratively by a health insurance company or a territorial Health Administration. An IHS contract should define relationships between a payor and the IHS as a legally and economically autonomous entity. The IHS, in turn, may use provider (sub-) contracts to configure itself as an association of independent providers, allied by common mission, objectives, and standards. In other words, participating facilities, would conduct business as subcontractors to the IHS.

6.2.2 Preconditions for IHS Implementation

Kemerovo experts believe that IHSs will be unable to operate and meet expectations unless a more conducive external environment is created. An integral part of such an environment should be consolidation of health financing under the auspices of a single purchasing authority. In the context of Russian health care policy, this implies that funds should be pooled from the Oblast Health Administration, municipalities, rural administrations, and Territorial MHI Fund. A single payor would then perform as a "Central Fund," to use the Dutch term, using a risk-adjusted capitation formula to allocate monies to health insurance organizations, i.e., local subsidiaries of the Territorial Fund and independent health insurance companies. Up to 80 percent of the health budget may be disbursed to providers of services through health insurance organizations. This model proved to be workable in Kemerovo and is recommended by the local reform architects and their Zdrav*Reform* advisers. The rationale for such recommendation is as follows:

- The health care sector remains severely underfunded. Therefore, cost control and containment are vitally important. The fragmented system of financing hinders coordinated allocation and use of resources. Moreover, irregular and untimely payments from independent institutions, often political rivals of one another, only add to chronic financial insufficiencies in the health care sector. An acute cash shortage disrupts management and clinical work to an extent that overshadows potential longer-term gains from participation in integrated IHSs. Innovation becomes discredited altogether.

- The co-existence of multiple financing authorities and lack of coordination among them, impede development of competitive contracting. Various payors usually cannot concur on methods of cost accounting, utilization, and quality control. Methodological discrepancies impair the overall ability of the system to monitor facilities for and compare them according to effectiveness and efficiency parameters. As a result, payors are unable to exercise informed choice of providers of care, nor to hold them accountable for their clinical and financial performance. Without incentives and discipline brought about by competitive contracting, IHSs become less efficiency-driven in their behavior.

- Non-concurrent methods of provider reimbursement, applied to the IHS-participating facilities by various payors, confuse providers and lead to the erosion of performance incentives. Local administrations have a particularly disruptive impact, paying providers in ways unrelated to their volume of services, their quality, or their cost-efficiency.

- The existing practice of separating alternative sources of funding by cost category is counter-productive. Health authorities and local administrations pay for utilities, minor and durable medical equipment, repair and renovation of the physical plant, and sometimes even pharmaceuticals. These monies are allocated from general revenue of the budget on a basis unrelated to performance. Important cost items, therefore, are excluded from the capitation and are insulated from efficiency incentives. Facilities become uninterested in raising their capacity utilization and energy efficiency.

Kemerovo's initial experience with HMO pilot projects suggests the following five preconditions for successful and sustainable implementation of integrated health systems:

1. Capitation rate should include most—up to 90 percent—of projected costs, currently covered from general budget revenue through performance-unrelated allocations.

2. In order to operationalize capitated financing, on-budget funds should be entrusted to the Territorial MHI Fund.

3. Provider costs of equipment, pharmaceuticals, medical supplies, and utilities—with the exception of major capital expenditures—should be included in the price of services and allowed for in the capitation rate. Even if funding is insufficient, facility managers should control all of it. *Ad hoc* allocations by the Health Administration, bypassing capitated funding and performance incentives, should be viewed as disruptive to provider payment reform. As much funding as possible should be channeled through IHS or other provider contracts.

4. Financing from general budget revenue, currently controlled by local health authorities, should be limited to costly equipment procurement, public health, accredited medical training programs, and major renovation of facilities.

5. The financial accountability of all the parties must be increased through independent auditing and other procedures, customary for self-governing trusts. Correspondingly, both payors and providers should evolve towards that status.

The proposed mechanism of integrated care financing does not imply that IHSs should be limited to a single purchaser, or that health facilities should be confined to one IHS. Non-captive contracts should be prevalent through out the system. In practical terms, however, a predominant affiliation between one payor and an IHS is envisaged.

6.2.3 Integration of Various Clinical Settings

Of critical importance to the success of IHS-based health financing is to make incentives work on all levels of the system. It presumes that economic relations exist among all basic functional elements of an IHS network. This is achieved by granting autonomy to each functional layer within an IHS. Separate bank accounts may be appropriate, so as to facilitate transactions and financial accountability.

A variety of components within the delivery system may be created and strengthened as building blocks for a viable IHS. This is how it can be done:

Polyclinics should be financially and legally separated from city or district hospitals. Within a polyclinic, two types of autonomous entities may be created: primary care unit(s), i.e., internists and pediatricians, and an ambulatory specialty care unit. The existing organizational layout of a large Russian polyclinic draws no distinction between a primary care physician and a specialist. Both are paid from the polyclinic budget in the same way and independently from each other. Primary care doctors do not have any incentives for taking over part of the procedures currently performed by specialists.

Various categories of primary care practices may be considered for integration into an IHS:

- internal medicine and pediatric care departments of polyclinics;
- obstetrics/gynecology and internal medicine practices, as a product of a more complex restructuring at the polyclinics;
- general practice, including a number of specialists, the latter thus becoming part of the fund holding team;
- stand-alone physician group practices; and
- any combination of the above.

The primary care practices would contract with specialty care providers, for example:

- polyclinic-based multi-specialty physician groups, under contract with the polyclinic;
- a hospital-based multi-specialty physician group, under contract with the hospital;
- a multi-specialty group staffed with both polyclinic- and hospital-based physicians; and
- specialists in solo practice.

Importantly, the best hospital specialists should be allowed to enter outpatient specialty practice and compete with polyclinic-based specialists. The most successful ones will earn their income from fund holding primary care practices, regardless of whether they are based at polyclinics or hospitals. The least competitive will fail to get enough contracts to recover their fixed costs and be driven out of business.

This new model of contracting requires legislation still in need of some major adjustments in the federal laws, also in need of local endorsement.

Ancillary services should be *sub-capitated* as part of the IHS. Similar to the units of primary and specialty care, they would be autonomous entities with their own partially prepaid budgets. This will stimulate proper costing of ancillary services and their exposure to the same cost-containment incentives as physician services.

Ancillary service providers will negotiate their costs as part of the integral capitation rate. Most costs could be prepaid, with the opportunity to save on efficiency gains and keep the savings or, alternatively, with the risk of overspending and facing the deficit. It is not clear, however, how viable this approach is, given that costs of diagnostic services are decisively influenced by referral rates and, thus, diagnostic departments and centers may become hostages of referring physicians. This may motivate them to pressure doctors to reduce utilization of ancillary services; it remains to be seen, however, whether they would have enough bargaining power to do so. Hopefully, cost-conscious behavior of the doctors will suffice to ensure clinical appropriateness of diagnostic referrals and avoid excessive utilization in this segment of the delivery system. A more realistic payment arrangement may be retrospective reimbursement of ancillary service providers on a fee-for-service basis. In either case, paraclinical departments should be motivated by financial incentives and/or contractual discipline to lower their unit costs, rather than locking in prior costs.

6.2.4 A Proposed Model of Fund Holding

In the Kemerovo context, the basic rationale for the fund holding is to encourage polyclinics and stand-alone primary care practices to take on clinical and financial management responsibilities throughout the health care system, so that primary care providers become advocates of cost-efficient and custom-oriented performance. Under this type of arrangement, a polyclinic or a primary practice would receive prepayment to cover not only primary care costs, but costs incurred by other service levels as well. Primary care providers would pay for services provided by other health care facilities and thus would be exposed to across-the-board financial risks.

A concrete proposal of such model is described below.

1. In the proposed model, a primary care, or general practice (GP) becomes a purchaser of a wide range of services. It receives funds sufficient for outpatient/polyclinic services and a certain part of funds intended to cover inpatient care. Put differently, a purchaser pre-pays a GP at an agreed capitated rate. The GP then covers costs of (a) primary care, (b) outpatient specialty care, (c) ancillary services, (d) ambulance/emergency services, and (e) 20-30 percent of inpatient care provided by IHS-participating hospital(s).

2. A GP pays for non-network services, if they are unavailable within the IHS, or if a non-network provider is competitive on a quality or price basis. Should excessive costs occur, stop-loss re-insurance or alternatively arranged outlier reimbursement would come into play, to attenuate the financial burden incurred by the IHS.

3. Being a fund holder, a GP has three optional methods of paying for services provided on levels other than primary care:

- retrospective payment (fee-for-service, per completed case, etc.);
- prospective payment for a pre-negotiated volume of care by type of care and participating facility; or
- a mix of payment methods, i.e., some services paid prospectively, others paid retrospectively.

The proposal is to have *prospective* capitation. However, an approved excess of reported over projected volume of specialty outpatient and inpatient services would be eligible for ex-post reimbursement.

4. Since most personal health care spending is likely to continue to be in the inpatient sector, a purchasing organization which holds most of the hospital funding will continue to be the main payor in the system. IHSs would play a secondary role, allocating a relatively minor share of funding directly to participating hospitals. The insurance organization will negotiate the volume and parameters of care with the hospitals, e.g., reimbursement rates, quality standards, and utilization patterns.

A significant transitional step towards full fund holding may become common practice, whereby the purchasing agency will prospectively reimburse most inpatient services directly but only if those services match characteristics agreed upon between the hospital and a partially-fund holding polyclinic that refers a large number of patients for admission to a particular hospital. This mean that the polyclinic actually exercises its powers as if it were a payor for the hospital, yet it does not participate in the disbursement of funds.

An important feature of this model is that optional methods of prospective and retrospective payment are calculated on the existing system of hospital pricing—an MES-adjusted, completed case basis. They differ in that under prospective payment, MESs are used as a tool for hospital budgeting and utilization control; under retrospective reimbursement, they are a fee schedule. Because most territories in Russia currently use an MES-like case mix reimbursement, it would not be difficult to make a shift from retrospective to prospective payment.

5. Along with capitated payments, GPs are paid on a completed case basis for hospital-substituting services and highly relevant types of care. These include day-care hospitals, outreach care, ambulatory surgery, selected immunizations, and preventive screenings.

6. In its capacity as the fund holder, a GP purchases services from specialists, paying for them either per completed case or per procedure (fee-for-service). The Kemerovo experience, gained during the pilot experimentation of the recent years, suggests that GPs prefer the second option: GPs are interested in selective purchasing and therefore in procedure-based pricing and reimbursement. They retain procedures that they can perform themselves rather than refer them to specialists. Specialists continue to provide consultations and relatively complex procedures, and are paid for them.

Other optional methods of paying specialists are payment per visit and negotiated prospective payment for a projected volume of care. Like hospitals, a GPs prefer a combination of methods, with most services reimbursed prospectively, while excessive and/or elective services paid on a fee-for-service basis, upon prior approval from the fund holder.

7. Emergency care is paid by fund holders at a fixed rate per emergency call. Rates are adjusted for case mix parameters of emergency assistance.

8. Ancillary services are paid fee-for-service.

9. GPs and other providers receive bonuses from special-purpose risk/incentive reserve to promote activities aimed at improving the structure and quality of care. Incentives to encourage polyclinic staff to reduce hospitalization rates and to avoid a natural temptation to deflect patients elsewhere.

Importantly, this fund holding model differs markedly in three ways from those tested in late 1980s under the New Economic Mechanism. First, under this proposed framework, being a fund holder is less important to IHS success than in the old model. The backbone of the IHS in its currently proposed form is represented by a fully integrated capitation rate; contracts among provider organizations that set each provider's share in capitation; and case mix-adjusted global budgets for hospital care. Second, the fund holder's budget covers only part of the costs of inpatient care, while the old model was based on their full reimbursement by the fund holders. The GP's fund holding capacity is intentionally restricted so to make a primary care provider pay only for care it actually manages, and to reduce the GP's potential for restricting appropriate hospitalization. Third, instead of retrospective payments, which dominate the old scheme, prospective methods of payment are recommended here, with the central focus on pre-establishing each provider's share in the integral capitated rate.

6.2.5 Inpatient Care Financing

This is, essentially, a global budget model. Through negotiations, the insurer and the hospital agree upon the hospital budget and specify the volume of services, to be provided by the hospital in the budgeting period. The budget derives from a baseline volume of care, with baseline

numbers adjusted for health-determined changes in demand. Past inappropriate utilization is factored in, and services which are planned to be moved to an outpatient basis are excluded. Reported admissions and length of stay are scrutinized for appropriateness. Altogether, the projected global budget is a minimal assessment, usually within 70-80 percent of baseline costs. It is expected that cost-containment incentives, plus contractual discipline will help the hospital comply with significantly reduced inpatient funding.

A remarkable feature of the global budget approach is that volume of hospital care and rates of reimbursement are negotiable. Nothing is inscribed in stone: clinical volume, case mix intensity parameters, and rates of payment are open to professional evaluation and negotiations. This is an important step towards overall deregulation in the hospital sector.

A hospital, operating under the global budget, accepts *de facto* most of the risks of excessive spending. If the actual number of discharged cases exceeds the target, financial losses are incurred. Conversely, a reduced volume of care and unit costs generates an excess of revenue over cost. For example, the negotiated target is 100 urology cases. Case mix parameters and LOS equal, the hospital is reimbursed for 100 cases, no matter what the actual number is. With 90 cases admitted, the hospital will provide care at a profit. With 110 patients, it will end up in the red. However, if all 110 admissions were found appropriate and within planned LOS, the global budget for the next year would be increased by 10 percent, to cover 110 completed cases in urology.

This is a fair arrangement if the hospital controls the specialists, who decide when to refer, whether to admit, how long the patient stays, and what clinical and, therefore, resource intensity should be anticipated. Hospitals will be encouraged to assure this appropriateness of inpatient care by searching for new managed care pathways within the existing system and improving hospital-polyclinic interaction. These objectives can be accomplished through: (i) pre-admission review of referrals from polyclinics and rejection of inappropriate cases; (ii) shifting to outpatient services, and utilizing the hospital resource and clinical base (e.g. day care, ambulatory surgery); (iii) consulting polyclinic-based doctors prior to referral decision; and (iv) setting up and extending outpatient practice, using hospital-staff physicians.

In the Russian setting, an appealing feature of the global budget is that it does not threaten hospitals with financing cuts because of bed capacity and/or personnel reduction. Moreover, restrictions on internal reallocation of resources are lifted altogether. Achieving higher productivity and efficiency is left to the hospital's discretion and any clinically acceptable way of doing so is recognized as legitimate.

As derives from the previous discussion, the global budget co-exists with allocations from fund holding GPs, using case mix reimbursement per patient discharge. Business-minded facilities will tap into both sources of funding. Luckily for providers of care, the incentives offered by the global budget method, on the one hand, and fund holding, on the other, concur. The basic difference is that under fund holding, primary care practitioners enforce hospital/polyclinic interaction to an extent that may even exceed the propensity of the hospital itself to keep utilization of inpatient care in check. Nevertheless, once the hospital learns how to interact with

GPs on cost containment, and once it is accustomed to seeking out outpatient facilities with which it will work, it ultimately will benefit from global budgeting, because it will have more freedom in setting the pace of shifting care outpatient.

Along with these advantages of the global budget method, Kemerovo experts have outlined three potential drawbacks.

1. Hospitals try to maximize their market share in order to increase guaranteed revenue from prepaid services and, by increasing clinical volume, level off risks from outlying cases. Purchasers of care have to counter the hospitals' behavior in order to prevent the system from a reverse structural shift back to inpatient services. This can be achieved by means of a straightforward cap on clinical volume or, alternatively, a regressive involvement of the purchaser in stop-loss reinsurance. The higher a guaranteed hospital budget is, the smaller the share of no-cost risk coverage is provided by the payor.

2. The hospital may behave erratically over the budgeting period, shifting from admission-maximizing to admission-averse behavior, the latter when a facility faces a steadily accumulating negative variance of actual versus budgeted costs. To make hospital behavior more steady and predictable, the "variance corridor" may be set forth by the contract, for example, limiting by 10 percent the variance from the targeted the level of patient discharges. If the target is exceeded, the payor would have to conduct a thorough on-site case review to evaluate the reasons of unexpectedly high variance in the number of admissions and/or costs. Situations of this kind suggest that admission and discharge criteria must be inherent in the global budget contract, as well as in any type of incentive-based hospital reimbursement.

3. Hospitals could start shifting their clinical activity towards peripheral sources of funding and referrals. Since the global budget is prepaid, there is temptation to collect the global budget funds, and at the same time start looking for direct contracts with employers, polyclinics, cross-boundary contracts with insurance companies, etc., which will impede admissions in the mainstream of the contractually-defined catchment area. Quality of care may suffer also, since hospitals may try to save money by reducing case mix intensity.

BOX 4. COMPETITION IN KEMEROVO

In Health Insurance: Nine health insurance companies are licensed to write policies under mandatory health insurance (MHI) in Kemerovo Oblast. They operate under agreement with the Territorial MHI Fund. The Fund, as a single prime purchasing authority, admits private underwriters into business, delegating such functions to them as signing contracts with employers, enforcing compliance, reimbursing providers, controlling utilization and quality, and redressing consumer grievances.

Even with multiple insurers in the market-place, competition among underwriters exists in only 3-4. In sparsely populated rural areas and small towns, market potential is so small that an incumbent's power is usually unchallenged.

What are the main tools of competition? Price is not among them. The Fund collects premium revenue from all employers and allocates funds to underwriters based on a risk-adjustment capitation formula. Net real premium, therefore, is fixed. The overhead margin is regulated quite tightly: it may not exceed 5 percent. Profits are not allowed at all. In summary, the price is rigid and hardly any room is left for gain. Quality of medical services and customer-friendliness reportedly are the main factors of consumer preference. Unfortunately for the Kemerovo population and the competition alike, consumer preferences do not necessarily translate into consumer choice. Employer-based group subscription and the fact that employers have no obligation to offer more than one insurance plan to their employees leave the final consumer without a voice in selecting the insurer.

In Health Care Provision: Contrary to official reports, health care financing in Kemerovo was not pooled at Territorial MHI Fund. Only 30 percent of aggregate funding is generated through MHI, while 70 percent still comes from general budget revenue. MHI promotes competitive contracting, while the Oblast Health Administration plays by the old rules of bureaucratic resource allocation. Needless to say, providers of services have no motivation to *compete* for the 30 percent, by excelling in efficiency, quality, and customer satisfaction. Instead, they focus their creativity on how to *beg* for the 70 percent, by winning benevolence of a *giving hand*. Says Roman Zelkovich: *Competition among medical facilities exists here in a peculiar post-Soviet form: how to be admitted to the table and get a bite out of the budgetary pie...In the times of the Innovative [New] Economic Mechanism we had more competition, both between the inpatient and outpatient sectors, and among particular facilities. It is not for nothing, that at that time the admission rate declined by 17 percent (although ALOS remained largely unchanged). In the recent years, per capita volume of hospital services even increased, and at any rate remains on an acceptably high per capita level of 3.3 days annually.*

With the decisive steps taken recently to pool major sources of funding at the Territorial Fund, the stage was set for provider competition. However, under-financing has become so exorbitant, that many administrators have panicked. They now speak in favor of an indiscriminate across-the-board resource elimination on a proportionate basis, rather than through selective and self-regulatory mechanisms based on competition.

Competition would be the most infallible way to address listed concerns. However, much time may elapse before the marketplace establishes itself. Even then, regulatory tools and activities will play an important role. In particular:

- an insurer will strictly monitor contract execution by the hospitals;
- hospitals will report regularly on their performance;
- the bottom line in quality assurance will be reinforced by means of accreditation;
- hospitals will be penalized whenever inappropriate variances in volume and non-compliance with quality of care are revealed.

Implementation of the global budget will be a bumpy process. Acute and aggravating shortage of cash makes hospitals generally uncooperative on any kind of innovation. This is a generic problem with health care reforms in Kemerovo and throughout Russia. More specifically, hospital chief physicians may choose to ignore any method of payment that restricts their unlimited powers in deciding who and how many to admit, and in what way and for how many days to treat. Only trial-and-error experience will show whether hospital administrators are ready to trade their administrative and professional sovereignty for prospectively better funding and a higher legally-earned income.

6.2.6 Paying Non-Network Providers

The IHS-contracting purchaser of care will have to allow for the cost of services provided by non-participating facilities, for example, when an IHS-affiliated central district hospital refers its patients to an oblast clinical hospital which is not part of the IHS. Non-network services should be factored into the integral capitation rate, especially because they often are much more expensive than analogous services available within the IHS. This forces participating providers to be more prudent in using non-network services. Referral flows should be analyzed and referral rates to higher-status facilities should be adjusted downward, as compared with the base line. Some of these projected costs may be prepaid to the non-network providers, with the prospective reimbursement arrangements dependent on the non-network provider's willingness to comply with the IHS standards. To make the system completely consistent, IHS enrollees should be requested to co-pay for non-network self-referrals. Participating providers may be rewarded for keeping non-network referrals at a minimum.

6.2.7 Contracting and Negotiations

Kemerovo proponents of an IHS model suggest that contracts would be signed between the following participants of an IHS:

- a payor, e.g. health insurance company, and a GP;
- a payor and a hospital (based on a prepaid global budget);
- a GP and an outpatient specialty care provider;
- a polyclinic and an ancillary service provider;
- a GP and a hospital;
- a polyclinic and an emergency care unit;
- a payor and a participating pharmacy; and
- a GP and non-network providers.

Providers of care of various functional profile and administrative status would negotiate: (i) their share of the capitation rate; (ii) the scope and volume of services to be provided; (iii) standards of appropriateness, utilization, and efficiency to be met; (iv) risk-sharing arrangements.

The purchasers of care would determine and guide the negotiations process. Based on preliminary analyses, the insurer would tentatively configure the capitation rate by provider-

specific shares. The negotiations may be sequenced by segment of the delivery system (first primary care, then specialty and inpatient care), by administrative status (from rural facilities to the Oblast Diagnostic Center and Oblast Teaching Hospital), by prospective status of a provider in the IHS (participating versus non-network), or any alternatively defined principle. Negotiations may be held one-on-one or jointly, e.g., with primary care and specialty care providers. Primary care providers, as the core component of the capitated IHS and the fund holders, would have strong bargaining power in negotiations with the payor, but also would sit on the payor's side, negotiating with referral providers. If several competing providers seek to join or otherwise become affiliated with an IHS, negotiations should take place and a preferred provider determined, based on its cost/price/quality-competitiveness.

Negotiations would focus on the following issues and include the following activities:

- A review of the IHS operations in the baseline period, as a whole and by component. Problematic areas will be identified, such as high incidence of inappropriate hospitalizations, excessive length of stay, inflated referrals to specialists, over-prescription of costly drugs, etc. Reports and recommendations will be produced by experts representing the payor, with the emphasis on opportunities to strengthen outpatient, particularly primary care sector. The issues to be considered here are: What additional services can be safely provided in a polyclinic setting? How can we encourage polyclinics to provide these services? What training and technology will physicians need to perform new functions and procedures? What types of referrals need to be approved by the purchaser?

- Cost containment targets will be set for each level of care. The indicators might be arranged by specialty, diagnostic groups, or specific services. For example, the target may be set forth to reduce hospital utilization from 500 to 450 days per 1,000 health-insured. While restricting utilization, the contract would also provide criteria for quality of care and patient satisfaction. A number of interrelated activities would be planned to help clinicians and managers achieve the targets.

- Indicators for measuring progress toward cost and quality objectives will be specified in the contracts, as well.

- Since most opportunities for optimizing resource utilization lie within primary care, primary care units would be offered to take on an additional scope of clinical work relating to specific preventive measures, procedures, or diagnoses. For example, if the purchaser believes that osteochondrosis patients have been excessively referred to neurologic specialty care, it may shift part of respective cases to a general practitioner, with a corresponding add-on to his/her part of the capitated budget.

When several provider organizations compete for the same scope of services and/or catchment area, the purchaser would arrange a competitive bid and choose the most appropriate provider.

Once negotiations are completed, revenue of each participating provider will no longer depend on shifting care among them. This takes the financial incentives away from a primary fund holder

for not referring patients for specialty care. A long-feared probability that GPs may abuse on their resource allocation powers would be thus excluded.

6.2.8 Risk Sharing Arrangements

As a generic model, fund holding implies that financial risks are shared among purchasers and providers on every level of an IHS. Over-utilization of medical care in excess of the capitated budget will cost both contracting parties.

Risk sharing arrangements play a critically important role for polyclinics. Being positioned within an IHS as an *up-stream* fund holder, the polyclinic may face the situation whereby its patients would not be able to access care at a referral *down-stream* provider, should those providers exhaust their budget too soon. This is not to mention that such situation may occur at the polyclinic itself.

What means should be used to preempt and avoid structural distortions within an IHS, thus minimizing a provider's overall risks and, at the same time, securing patients' rights? Stop-loss reinsurance is one possibility. Concrete arrangements may differ by type of provider and would have to be conceptualized by the Kemerovo reformers. Reinsurance, however, should be considered as supplementary to clinical appropriateness and outcome control. Also, consumer right protection by means of well established grievance procedures could be instrumental in keeping referral rates and pathways close to the optimal.

6.2.9 Incentives for Efficiency and Quality

IHS contracts may provide for the creation of a "risk/incentive pool" to encourage better effectiveness and efficiency of care. The main purpose of such a pool would be to stimulate a team of technologically interrelated providers to collaborate in pursuit of pre-negotiated targets of efficiency and quality of care. They would share both the financial consequences of a negative cost variance and the rewards from efficiency gains. Contributions to such a risk/incentive pool would come as withholds from each facility's sub-capitated budget. Distributions will be made to providers, according to consensus-based rules and procedures.

For example, the target may be to reduce the childhood asthma hospital utilization rate by 20 percent by improving early diagnostics, prescribing non-hormonal medication, etc. The inpatient money is fixed on the amount 20 percent below the baseline, and set aside. Affected providers—area-serving pediatricians, pulmonologists, a pharmacy, and a hospital—would

BOX 5. STRENGTHENING OUTPATIENT AND PRIMARY CARE IN KEMEROVO: FACTS AND NUMBERS

- In 1994-96, 14 group and three individual general practices were opened in Kemerovo oblast. Of that number three operate as stand alone facilities, and 14 as structural units within polyclinics. The catchment area radius is 1-1.5 km in urban localities and 10-12 km in rural areas. Enrollment size per one GP varies from 1,500 to 2,500 persons.
- Any MHI policyholder can chose a primary care physician.
- Provision of hospital beds per 10,000 population declined in 1992-96 from 123.4 to 105.1. No waitlist for admission is reported, which suggests that bed capacity reduction did not affect access to inpatient services.
- Hospitalization rate decreased from 228 cases per 1,000 resident population in 1992 to 211 cases in 1996.
- The annual per capita number of physician encounters grew from 9.0 in 1992 to 9.8 in 1996.
- The number of day-time hospital beds increased from 810 in 1992 to 1,435 in 1996, while the number of treated patients rose from 41,527 to 67,777.
- The number of outpatient surgeries more than quadrupled, from 111,938 in 1992 to 463,920 in 1996.

withhold money from their pre-capitated budgets and put it into a risk/incentive pool. If the asthma-associated amount is spent before the end of the year, excessive costs would be covered from the risk fund. Conversely, any surplus achieved through savings would be distributed in bonuses among the pool participants. The payor may want to contribute to the risk/incentive pool in order to strengthen its re-insurance properties and increase rewards.

Such an arrangement is expected to enhance the propensity of IHS-affiliated providers to coordinate their clinical and utilization strategies. Importantly, it does not encourage increase in volume and intensity of care, which often becomes an undesirable side-effect of performance-based methods of reimbursement. Negative and positive incentives are reasonably balanced here.

6.0 CONCLUSION

The conceptual and methodological innovation described in this case study confirm that Kemerovo Oblast continues its quest for a more effective and efficient health care system for its population. In pursuit of this strategic goal, a group of dedicated innovators, assisted by international teams of experts—in 1994-96 it was the Zdrav*Reform* Program—develops and tests sophisticated mechanisms of resource allocation to and within the health care sector, as well as restructures health service delivery system. From improving payment systems separately targeted at particular types of providers, the architects of the Kemerovo reforms are now moving into building integrated health systems. Their objectives are to: i) achieve better coordination of care for health gains; (ii) improve control of quality, utilization, and cost efficiency by aligning technologically interlinked providers by common targets; and (iii) accomplish a shift from administratively controlled to self-regulatory mechanisms of integrating all levels of care, and controlling for appropriateness, and containing costs. This emerging line of reforms builds on virtually every kind of experience developed in Kemerovo over the past 10 years. Those CIS reformers who want to learn from Kemerovo should focus on their experimentation with IHSs. In that way, the observers will be able to make insights into the regional capitated formulas, case mix reimbursement, quality control, and data processing systems previously developed in Kemerovo. As stated in the introduction, evidence of actual results is unavailable. Most of the reforms are still in the design phase or initial stages of implementation.

The following generic approaches may be distilled from the current trends in health policy thinking in Kemerovo:

1. It is proposed that there should be a strategic shift from separately financed health care facilities to integrated delivery systems that receive prospectively paid capitated budget for providing a pre-negotiated comprehensive package of services to their enrollees.

2. Health funding from major sources such as MHI and general budget revenue should be pooled for various reasons and, particularly, to facilitate proliferation of capitated IHSs.

3. Primary care providers, unless they already participate in fully integrated IHSs, should become partial fund holders, i.e., prospectively paid providers/purchasers of a wide range of ambulatory services and, in part, hospital services, too.

4. A shift from retrospective to prospective payments derives from the changes listed above yet is worth being emphasized once again as a critically important shift in the methods of provider reimbursement. Negotiation procedures to set prospective rates should be developed under the guidance of purchasing authorities.

5. A case mix-adjusted global budget for a prospectively established range and volume of services should be given careful consideration as a promising basic model of hospital financing.

6. Risk sharing arrangements should be developed as the key element of IHSs and prospective capitation.

7. The mechanisms to offset potential negative effects of fund holding and global budgeting should be put in place in a timely manner.

An extensive amount of experimental work will be needed to transform these innovations from doctrine-driven approaches to working instruments. Another challenging objective is to integrate numerous good techniques into a non-conflicting single system. National health policy agencies in Russia and other CIS countries may want to apply Kemerovo-designed concepts and blueprints to their health care systems. This would increase the pace of pilot-testing and implementation of these potentially viable models.

APPENDIX 1
BIBLIOGRAPHY AND RELATED REFERENCES

A. BIBLIOGRAPHY

1. Coburn J. *Developing and Testing Methods of Payment for Ambulatory Health Services.Technical Assessment, Findings, and Recommendations. Kemerovo, Russia.* Zdrav*Reform* Program: Trip Report No. Rus-14, 1994, 15 pp.

2. Isakova L.E., Zelkovich, R.M. *Health Insurance Experiments in Kemerovo*. Research Report. 33 pp.

3. Rice J.A., Sheiman I.M. *Kemerovo: Ten Years of Change and Innovation of Health Care: 1986-1996. Lessons for 21st Century?* Moscow, June 1996, 20 pp.

4. Sheiman I. *Developing Integrated Health Care Delivery and Funding Systems in Russia (Health Maintenance Organizations),* March 1996, 26 pp.

5. Sheiman, I. *Forming the System of Health Insurance in the Russian Federation*. in *Social Science Med*., Vol. 39: 10, 1425-32.

6. Schieber G.J., Poullier J.-P., Greenwald L.M. *Health System Performance in OECD Countries*, 1980-1992. Health Affairs, Fall 1994: 100-112.

7. Андреева М.Б. и др. Медико-страховые интегрированные системы (Учебное пособие). Департамент охраны здоровья населения Кемеровской области, Страховая медицинская организация ОБК “Кузбасс”;Москва-Кемерово,1996,171 с.

8. Литвиненко Н.Я. и др. Многоуровневая система стационарной помощи. Методическое пособие. Программа Здрав*Реформ*, Москва-Барнаул, 1996, 35 с.

9. Нелепина Н.В. и др. Разработка и апробация модели медико-страховой интегрированной системы. Департамент охраны здоровья населения Кемеровской области, Страховая медицинская организация ОБК “Кузбасс”; Москва-Кемерово, 1996, 21 с.

10. Седачева Л.А. и др. Создание общих врачебных практик. Учебное пособие. Программа Здрав*Реформ*, Департамент охраны здоровья населения Кемеровской области, Москва-Кемерово, 1996, 170 с.

11. Совершенствование деятельности здравоохранения территории на основе экономических методов управления (Учебно-методическое пособие), Кемерово, 1989.

12. Фрид. Э.М. и др. Методология разработки и экономического обоснования Базовой и Территориальной программ ОМС. Учебное пособие. Программа Здрав*Реформ*, Москва-Барнаул, 1996, 85 с.

13. Фрид Э.М., и др. Разработка и использование новых методов оплаты амбулаторно-поликлинической помощи. Городская больничная касса (г. Кемерово); Кемерово, 1996, 117 с.

14. Царик Г.Н./ред. Здравоохранение Кемеровской области в условиях эксперимента. Кемерово: НИЛМКб 1988

15. Демографический ежегодник России. Официальное издание М.: Госкомстат России, 494 с.

16. Экономика России. Январь-сентябрь 1996 г. М.: Госкомстат России, 1996, 282 сс.

B. RELATED READINGS

Other case studies in this series:

An Overview on Case Studies on Payment Reforms in the New Independent States, Annemarie Wouters.

Health Care Reform in Kaluga Oblast, Russian Federation: Provider Payment Reform in Six Pilot Sites, Jack Langenbrunner.

Health Care Reform in the Issyk-kul Oblat, Kyrgyzstan, 1994-97: Restructuring through Payment Reform, George P. Purvis, III.

Health Payment Systems Reform in Zhezkazgan Oblast, Kazakstan 1995-97: Case-based Hospital Payment, George P. Purvis, III, and Cheryl Wickham.

Per Capita-based Global Budgeting in Zhovkva, Ukraine: An Integrated Set of Reforms, Annemarie Wouters and George P. Purvis, III.

Tver Oblast, Russia: Payment Reforms in Five Pilot Sites, Jack Langenbrunner.

Other Zdrav*Reform* publications:

PRIMARY CARE

Technical Reports:

UKR-11 The State of Private Medicine and its Place and Development in the Health Care System—Survey Result, by Yaroslav Bazylevych. (English, Ukrainian)

UKR-12 Estimates of Private-Out-of-Pocket Spending on Physician Services in L'viv, Ukraine, by Peter Hauslohner. (English, Ukrainian)

UKR-14 Strengthening Clinical and Economic Aspects of Family Medicine in L'viv Oblast, by John Reeves and Annemarie Wouters. October 1996. (English, Ukrainian)

UKR-16 Strengthening Primary Care in Kodyma Rayon, Odessa Oblast, Ukraine, March 1996, by Robert Drickey.

Technical Notes:

UKR-2 Successful Integration of Medical Insurance, Private Practice, and Family Medicine in Dnieprodzerzhinsk, by Marc Stone. May 1996.

Trip Reports:

CAR-2 Present State and Future Needs of Primary Care in Kazakhstan and Kyrgystan, March 18-April 7, 1995, by Julian Tudor Hart and Mary Hart.

CAR/KYR-8 Health Systems Development and Financial Management of the APTKs in the Issyk-kul Oblast Demonstration Area, June 17-July 11, 1995, Karakol, Kyrgystan, by George P. Purvis III.

CAR/KYR-15 Health Facility Licensing and Accreditation and Family Group Practice and Mandatory Health Insurance Fund Update in Issyk-kul Oblast, Karakol, Kyrgystan, January 22-February 16, 1996. Prepared under Task Order 227 by George P. Purvis III.

CAR/KYR-16 Family Group Practice (FGP) and Mandatory Health Insurance Fund (MHIF) Developments in the Issyk-kul Oblast, Karakol, Kyrgystan, April 21-May 11, 1996. Prepared under Task Order 223 by George P. Purvis III.

UKR-33 Second Technical Assistance to Skole Rayon, L'viv Oblast, Ukraine, November 27-December 14, 1995. Prepared under Task Order 331 by Marty Makinen and Peter Cowley, MD.

UKR-37 Strengthening Economic and Business Aspects of Family Medicine and Roll-out of User Fee Experiments to Zhovkva and Yavoriv, L'viv Oblast, Ukraine, October 6-25, 1996. Prepared under Task Orders 331and 333 by Annemarie Wouters.

UKR-42 Health Care Legislation and Experiments in Ukraine: Strengthening Focus on Primary Care, August 5-9 and September 23-October 4, 1996. Prepared under Task Order 365 and 318 by Alexander Telyukov.

RUS-18 Zdrav*Reform* Grant One: Barnaul Development of a Conceptual Framework of Family Practice, Altai Krai, Russia, February 13-March 4, 1995. Prepared under Task Order 144 by Dewees F. Brown.

FINANCIAL MANAGEMENT AND USER FEES

Technical Reports:

UKR-7 Internal Control and Cash Management Manual and Questionaires. L'viv, Ukraine by Bradford Else, November 1995

UKR-9 Self-financing and Cost Recovery in Odessa, Ukraine, by Abdo Yazbeck, Tim Metarko and Tom Wittenberg, November 1995

Trip Reports:

CAR/KYR-10 Financial Management of the FGPs and Organizational Development of MHIF/OHD in the Issyk-kul Oblast Demonstration Area, Kyrgystan, September 17-October 14, 1995. Prepared under Task Order 223 by George Purvis III.

UKR-30 A Management Accounting Model Based on the Legal, Organizational, and Financial Development of a Privatized Department within a Public Facility at Polyclinic No.2. L'viv, Ukraine. Prepared under Task Order 333 by Bradford Else.

PAYMENT METHODS

Technical Notes:

UKR-10 Design of Managed Care Prepayment Program for the Family Health Center in Odessa, Ukraine, by Kate Westover and Hopkins Holmberg, January 1996

Technical Reports:

UKR-5 An Assessment of Plans to Implement per Capita Financing in the Health System of L'viv Oblast, by James Knowles and Robin Barlow. (Ukrainian and English)

UKR-6 L'viv Intensive Demonstration Site. A Tool Kit for Implementing User Fees and Decentralized Management Accounting Systems in City Hospital No.1 (L'viv, Ukraine) by Annemarie Wouters, November 1995.

Trip Reports:

CAR/KAZ-14 Provider Payment Reforms in Central Asia, July 24-August 4, 1995. Prepared under Task Orders 234 and 235 by Alexander Telyukov.

CAR/KAZ-20 Developing Roll-out of Provider Payment Reforms in Kazakhstan under the New Insurance Reforms Initiative, February 11-24, 1996, by Jack Langenbrunner.

CAR/KAZ-27 Roll-out of Financial and Organizational Reforms: Semipalatinsk Oblast, Kazakstan, April 10, 1996. Prepared under Task Order 292 by Jack Langenbrunner.

CAR/KAZ-28 Transitioning From Design State to Implementation of Financial and Organizational Reforms: Semipalatinsk Oblast, Kazakstan, July 3-6, 1996. Prepared under Task Order 292 by Jack Langenbrunner.

CAR-KAZ-33 Financial Systems Development and Workshop for Family Practice Physicians in Semipalatinsk Oblast, Kazakstan, December 14-21, 1996. Prepared under Task Order 292 by George P. Purvis, III.

CAR/KYR-13 Design of a Case-based Hospital Payment System in Karakol, Kyrgystan, September 8-23, 1995. Prepared under Task Order 227 by Grace Carter.

UKR-23 Design of Managed Care Prepayment Program for the Family Health Center, Odessa, Ukraine. October 24-November 21, 1995. Prepared under Task Order 321 by Kathryn Westover and Hopkins Holmberg

UKR-35 Assistance with National Health Care Financing Legislation, November 4-15, 1996. Prepared under Task Order 365 by Alexander Telyukov.

RUS-14 Developing and Testing Methods of Payment for Ambulatory Health Services, Kemerovo, Russia. Prepared under Task Order 124 by Josh Coburn.

RUS-25 Cost Finding and Case Mix Reimbursement Innovation in Siberia (Tomsk, Novosibirsk) and Moscow, Russia, July-August 1995. Prepared under Task Order 161 by Alexander Telyukov.

RUS-31 Introducing Family Physicians to New Methods of Financial Incentives: Designing and Testing of a Managed Care Model, Tomsk, Kemerovo, Kaluga, and Tver, Russia, January 8-February 11, 1996. Prepared under Task Orders 141, 143, 147, 149 by Henry Leavitt, E. Petrich and Associates Inc.

QUALITY ASSURANCE

Technical Reports:

CAR/KYR-2 Health Facility Accreditation by Greg Becker. Prepared for Karakol, Kyrgyzstan, November 1994. (English and Russian)

UKR-4 Improving Efficiency, Quality and Access under Global Budgeting at City Hospital No.1, L'viv, Ukraine by Annemarie Wouters and Peter Wilson, July 1995

Trip Reports:

UKR-44 Assessment and Recommendations of the Accreditation Process and Standards of the Hospitals of Ukraine, February 28-March 12, 1997. Prepared under Task Order 319 by Janet Farrell.

RUS-22 Training of Russian Physicians in Total Quality Management, Novosibirsk, Russia, April 24-28, 1995. Prepared under Task Order 122 by Hans F.Loken, E.Petrich and Associates Inc.

APPENDIX 2
REVIEW OF HEALTH CARE REFORMS IN RUSSIA: A PRIMER FOR THE KEMEROVO CASE STUDY

Innovators first articulated clear goals for national health reform in 1989-90 when they proposed a new pattern of health financing and administration for the then-Soviet Union. This pattern included new approaches to financing and management to increase the supply of services, foster equity, and enhance efficiency. To achieve these goals, an insurance-based mechanism of allocating funds would supplement insufficient health care financing; decentralized management would make decisionmaking more responsive to local needs and strengthen enforcement mechanisms; and competitive contracting and performance-based reimbursement would create incentives for providers to increase the supply of services while encouraging cost-consciousness.

Mechanisms for Reform

The *Health Insurance Act,* passed in summer 1991 and amended in early 1993, is the legal foundation for health sector reform in Russia. The Act makes Russia's entire population eligible for comprehensive statutory health coverage financed from two sources: an earmarked payroll tax levied on employers to cover their employees and on-budget premiums to cover government employees and non-working populations. Contributions from both sources are pooled into the newly created territorial mandatory health insurance (MHI) funds, which pay accredited health care facilities through contracts to provide required health care benefits to patients. Because each territory may broaden the MHI benefits package to include "locally relevant" care, basic coverage is almost all-inclusive.

Either the local subsidiaries of the MHI Fund or nonprofit insurance companies underwrite employers for the MHI, reimbursing and monitoring providers of care. An MHI Fund pays insurance companies an age/sex-adjusted capitation rate per subscriber. Since community rating restricts risk selection, competition among insurance companies is focused on market share, with competitive advantage coming from the consumer-friendliness of a carrier in dealing with employers, its ability to enforce tax compliance, its exercise of self-restraint as regards administrative overheads, and its ability to gain approval by the Fund by effective control of quality of care.

Russian health insurance—defined by the presence of comprehensive coverage, a single fund into which premiums are paid, the major role of public monies, and the absence of experience rating—can be compared most clearly to the Canadian system. In Russia, the introduction of MHI indicated a revolutionary step towards separation of health financing from the delivery of services.

Health service delivery, although a target of innovative experiments in the 1980s, remained largely outside of the reform agenda in the 1990s. Providers of care received no legal endorsement for autonomy. Performance-based methods of reimbursement, although proclaimed a preferred approach, were not operationalized. A shift toward outpatient care in general and

primary care in particular was neither set forth as a structural policy nor as an incentive-driven goal. Consumers did not push providers to deliver care in a cost-conscious manner.

Progress in Implementing Reform

After a year of organizational disarray, health insurance reform took off in 1994 and has been gaining momentum ever since. Data as of January 1995 reveal a number of trends, accomplishments, and problems.

(1) The MHI administrative network has been established. Territorial MHI Funds now operate in 86 of 89 territories of the Russian Federation. There are 1,103 subsidiaries serving local communities as MHI transaction centers; among them, 571 also perform underwriting functions. There are 10,500 MHI staff.

(2) MHI coverage is spreading, yet it remains far from comprehensive. Coverage quadrupled between mid-1993 and early 1995: 71.9 million persons, or 48.2 percent of Russia's population received MHI policies.

(3) The government, which together with employers is one of the two driving forces in MHI coverage, remains reluctant to give budgetary resources to MHI Funds. Although government contributions should cover 56 percent of the population, they currently pay for only 24 percent of MHI enrollees. In 1994, though numbers were up dramatically from 1993, only 51 territories pooled funds from governments and employers.

(4) The compliance rate among employers has reached 90.9 percent, evidence that the MHI system's tax collection service is operational in most places.

(5) Local subsidiaries of the MHI Funds coexist in only 16 territories with private insurance companies, which were viewed from the outset as rivals, not partners. In these 16, Fund subsidiaries and independent insurance carriers have comparable shares in the MHI operation. In 30 territories, insurance companies enjoy a much larger share of MHI business, while in 40 territories subsidiaries prevail. The national pattern in the division of labor between the two systems of institutions is as follows: Independent insurers focus on underwriting employers by signing MHI contracts with them. So far they have issued 3.5 times more MHI policies than the subsidiaries. Subsidiaries specialize in reimbursing providers. They made 30 percent of MHI payments to medical facilities (Territorial MHI Funds directly transferred 70 percent of payments), while insurance companies manage no reimbursement.

(6) MHI spending in 1994 finally focused on its primary objective: allocations to medical facilities increased from 27.5 percent of total MHI Fund outlays in 1993 to 74.6 percent in 1994. Sixty seven Funds had claim reimbursement systems set up and in regular operation.

(7) Administrative overheads were kept in check, accounting for no more than 1.4 percent of the federal MHI expenditure and 2.8 percent of the territorial outlays. Interpretation of such fine numbers may be a matter of definition, however; for example, if training, insurance research, and

investment income taxes were classified as overhead another 12.9 percentage points would be added to the Federal MHI Fund's overhead. On the other hand, the predominantly monopsonistic structure of the territorial health insurance markets in Russia makes the system potentially efficient in terms of administrative costs. Russia would remain closer to Canada with 6 percent overheads, than to the United States with 25 percent.

(8) An across-the-board tendency is to over-accumulate reserves. Needless to say, all MHI Funds are tempted by the availability of highly profitable financial instruments for institutional investments. To their credit, however, it should be noted that hedging against inflation remains a legitimate concern and in a highly volatile economy like Russia's such hedging may result in all kinds of "creative" investment initiatives on the part of the MHI Funds.

(9) The per-patient discharge method of paying hospitals reportedly now dominates the MHI system, while outpatient providers are still paid through annual global budgets, unrelated to performance. Overall, health insurance innovation has so far not translated into efficiency gains in health service delivery. A significant reform goal thus remains unaddressed and is eroding. Once the economy improves, the health sector would experience rapid cost growth in the absence of cost-containment measures.

Lessons for the CIS Countries

After 4 years of trailblazing experience with MHI, Russia has a lot to say to those countries who are currently exploring similar mechanisms and wish to develop a balanced and comprehensive health reform agenda.

In summary, the Russian experience suggests the following: *First*, the MHI should not be considered as the only or the main health care reform issue. *Second*, any attempt to reform the health care sector is bound to fail unless it appeals directly to providers and consumers of services, the primary stakeholders in the system. *Third*, creating a new source of funding that requires setting up a parallel system of administration leads to increased administrative confusion and methodological incongruity that may outweigh gains from new health insurance premiums. *Fourth*, to the extent that conflicts may arise between the old (MOH-affiliated) and the new (MHI-affiliated) health bureaucracies, dominance will go to the party which takes over as the methodological command center of the reforms, i.e., which identifies truly relevant issues and collaborates with the medical profession, employers, and consumers to reach comprehensive solutions. *Fifth*, reforms must not give way to bureaucratic logic (see the previous item). The Oblast Health Administrations and Territorial MHI Funds may operate under a common administrative umbrella and deal as partners with non-overlapping regulatory functions (see below).

The Role of the MHI Fund

The MHI Funds and the Oblast Health Administrations may establish themselves in an MHI-driven environment and at the same time avoid disruption in the health care sector that could result from conflicts. It would be a mistake for the National and Oblast MHI Funds to focus too narrowly on their monetary functions, trying to outmaneuver the MOH on its traditional turf. A long time may elapse before the MOH agrees in good faith to pool the health budget with MHI insurance premiums. Until this occurs, the MOH will retain financial power, and chief doctors will continue to view the MOH as a legitimate purchasing authority. Furthermore, even if funds flow through the MHI Funds, as long as the Funds limit their role to collecting premiums and allocating them to providers in the same way as the MOH has done in the past, the MHI system will be politically vulnerable and unprotected. The MOH will wonder: What is the rationale for the MHI Fund if the Ministry can collect premiums from employers and utilize this additional source of funding without paying additional overhead costs necessary to maintain the MHI Fund network?

To earn its right to exist the MHI Fund will have to establish itself by introducing radically new approaches to paying providers for their services. No matter how limited the amount of reimbursement is initially, the Fund should seriously consider introducing payment methods that would bring about incentives for providers, freedom of choice for consumers, and accountability and transparency in the health care system for group subscribers and regulators. The following choices are worth strategic consideration: creating integrated delivery systems, granting them broad autonomy and comprehensive fund holding status, and reimbursing their costs based on a prospectively paid full capitation rate. These approaches will appeal to providers, and the MHI Fund will get credit for their proactive attitudes, professional competence, and general sense of leadership. Building their own political base among health care providers, consumers, and employers *initially* as a *methodological* leader in the health care system, the Fund will then become influential enough to take over a major part of the national health budget, if so mandated by the national MHI legislation.

The Role of the MOH

Deregulation as the fundamental principle of health care reform should not be mistaken for the erosion of the governments' regulatory power in the health care sector. In fact, the regulatory functions of the policy center will be extended to new, so far neglected areas. The MOH and the Oblast Health Departments will keep in check the intensity of the structural shift in the health care sector in order to prevent disruptions in the delivery of services and ensure fair play conditions—time for adjustment—for relatively non-competitive facilities. Governments will monitor market-driven restructuring and prevent monopolistic collusion. Case-by-case decisions will be made to protect certain facilities and physician practices from bankruptcy if no alternative source of care exists. The MOH will play an important role in licensing and accreditation, developing outcome-based quality control systems, technology assessment, drug formularies, patient registration, and clinical coding databases. In a broader quest for methodological leadership, the MOH would take the lead in developing: (1) sample contracts and regulation of

relationships among providers of care; (2) clinical classification lists for rate schedules; and (3) guidelines for facility rationalization and cost recovery.

The MOH may significantly contribute to facilitating professional and economic adjustment of displaced health personnel, perhaps even manage a national database that would help to match excessive labor with job openings. Another innovative function to consider is designing clinical and operational profiles of new types of facilities, e.g., outpatient surgery centers, subacute care centers, nursing homes, hospices. These are likely to emerge in a market-driven process of optimizing the delivery system. The MOH will have the opportunity to assume even more functions, which will stem from the overall liberalization of relationships between providers and consumers of health services, e.g., redress of consumer grievances and conflicts among providers, and organization and co-sponsoring of malpractice insurance. (Some of the above-listed functions could be shared with the MHI Fund.)

Health Policy Reform Strategy: An Integrative View

Health care reform should not boil down to the introduction of health insurance. Instead, it should cover a broad array of issues that would enable comprehensive internal restructuring of the health care sector. A major paradigm shift is necessary, from a command-and-control system of health administration to a self-regulated environment based on autonomy for providers of care; incentive-based methods of resource allocation and reimbursement of services, consumer choice of primary care physicians; and managed competition and cost-containment—enhanced through full fund holding, non-itemized budgeting, deregulation of the health sector's labor management practices, and quality assurance by clinical outcomes rather than through restrictive, normative-style micro-management of clinical practice.

From a policy-makers' perspective, reliance on the self-regulatory potential of the medical profession and the health care sector should be viewed as a *politically beneficial approach* to health care reform. Decisions to close redundant hospitals and remove excessive personnel will be generated internally: only viable facilities will be able to compete for contracts from the fund holders, while the cost-inefficient and/or quality-ineffective ones will be phased out of the marketplace by means of self-policing contractual and accreditation mechanisms. The medical profession empowered with economic incentives and exposed to financial risks will self-regulate in favor of the structural adjustment in the provider network and rationalization of health facilities. Government responsibility for politically unpopular decisions, inherent in centrally administered health care reform, will be reduced.